4000 Main Street
Rowlett, TX 75088
www.rowlett.com

AN ORDINANCE OF THE CITY OF ROWLETT, TEXAS, APPROVING AMENDMENTS TO THE LAND USE ASSUMPTIONS, THE CAPITAL IMPROVEMENT PLAN, AND THE IMPACT FEE RATES AND STRUCTURE FOR WATER, WASTEWATER AND ROADWAY FACILITIES; PROVIDING A REPEALING CLAUSE; PROVIDING A SEVERABILITY CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Council of the City of Rowlett, Texas has previously imposed impact fees for water, wastewater and roadway facilities for the financing of capital improvements required for new development in the City; and,

WHEREAS, with the advice and assistance of the Capital Improvements Advisory Committee, amendments to the Land Use Assumptions and the Capital Improvement Plan for Water, Wastewater and Roadway Facilities have been prepared; and

WHEREAS, based on amendments to the Land Use Assumptions, amendments to the Capital Improvement Plan for Water, Wastewater and Roadway Facilities have been prepared by the City's consulting engineers, Kimley-Horn; and

WHEREAS, the Capital Improvement Advisory Committee has filed written comments on the amendments to the Land Use Assumptions and the Capital Improvement Plan for Water, Wastewater and Roadway Facilities and the City Council has received and reviewed those comments; and

WHEREAS, the City Council of the City of Rowlett has given notice and held a public hearing required by Chapter 395 of the Texas Local Government Code for the amendments to the Land Use Assumptions, the Capital Improvement Plan for Water, Wastewater and Roadway Facilities Plan and modification of impact fees for the financing of capital improvements required by new development within the city; and

WHEREAS, the City Council find it is in the best interest of the City of Rowlett and its citizens to approve and adopt the amendments to the Land Use Assumptions and the Capital Improvement Plan for Water, Wastewater and Roadway Facilities.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ROWLETT, TEXAS:

Section 1: That the City of Rowlett, Texas hereby approves and adopts the "2013 Roadway, Water, and Wastewater Impact Fee Study", dated November, 2013, and

prepared by Kimley-Horn & Associates, Inc., as the amended Land Use Assumptions and Capital Improvement Plans for Water, Wastewater and Roadway Facilities of the City, a copy of which is attached hereto and incorporated herein as Exhibit A.

Section 2: That should any sentence, paragraph, subdivision, clause, phrase or section of this ordinance or the Code of Ordinance, as amended hereby, be adjudged or held to be unconstitutional, illegal or invalid the same shall not affect the remaining provisions of said ordinance or the Code of Ordinances, as amended hereby, which shall continue in full force and affect.

Section 3: That any violation of this ordinance may be enjoined by a suit filed in the name of the City of Rowlett, Texas, in a court of competence jurisdiction; and this remedy shall be in addition to any penal provision in this ordinance or in the Code of Ordinances of the City of Rowlett, Texas as amended hereby.

Section 4: That this ordinance shall take effect immediately from and after its passage and the publication of the caption as the law and charter in such cases provide.

At a meeting of the City Council on December 3, 2013 this Ordinance be adopted. The motion carried by the following vote:

Ayes: 6 Mayor Gottel, Mayor Pro Tem Kilgore, Deputy Mayor Pro Tem Gallops, Councilmember Phillips, Councilmember Dana-Bashian and Councilmember Pankratz

Absent: 1 Councilmember Bobbitt

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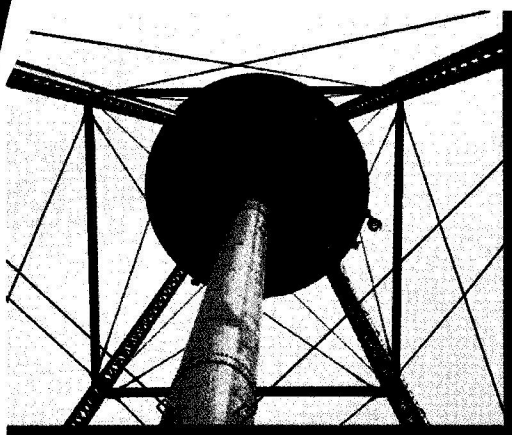
Approved by _____ **Date** December 3, 2013
Mayor

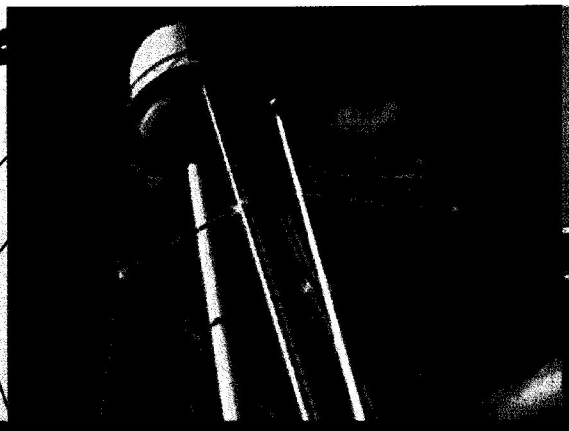
Approved to form by _____ **Date** December 3, 2013
City Attorney

Certified by _____ **Date** December 3, 2013
City Secretary

CITY OF ROWLETT, TEXAS

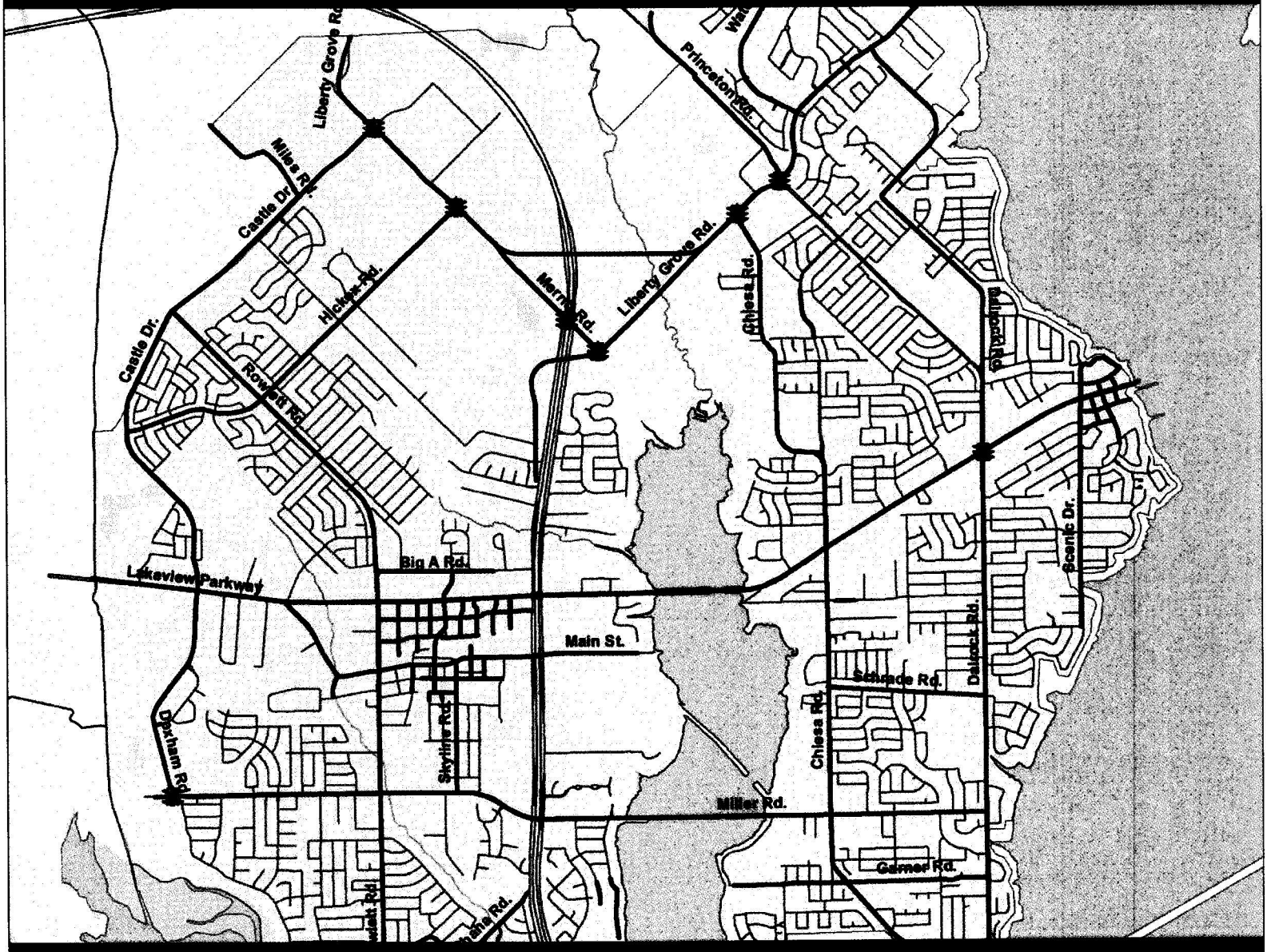
EXHIBIT A





Rowlett
TEXAS

Water, Wastewater & Roadway 2013 Impact Fee Study



Kimley-Horn and Associates, Inc.

EXHIBIT A

2013 Roadway, Water, and Wastewater Impact Fee Study

City of Rowlett, Texas

Rowlett
TEXAS

Prepared by:

Kimley-Horn and Associates, Inc.
Texas Registration Number 928

801 Cherry Street, Unit 11, Suite 950
Fort Worth, TX 76102
817.335.6511

November 2013

061101009

EXHIBIT A

2013 Water and Wastewater Impact Fee Study

City of Rowlett, Texas

Rowlett
TEXAS

Prepared by:

Kimley-Horn
and Associates, Inc.
Texas Registration Number 928

801 Cherry Street, Unit 11, Suite 950
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Kimley-Horn and Associates, Inc.

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1.1 INTRODUCTION

The City of Rowlett retained the services of Kimley-Horn and Associates, Inc. for the purpose of updating the impact fees for water and wastewater system improvements required to serve new development. These fees were last updated in 2003 in accordance with Chapter 395 of the *Local Government Code* (impact fees).

The purpose of this report is to satisfy the requirements of the law and provide the City with an updated impact fee capital improvements plan and associated impact fees.

For convenience and reference, the following is excerpted from Chapter 395.014 of the code:

- *The political subdivision shall use qualified professionals to prepare the capital improvements plan and to calculate the impact fee. The capital improvements plan must contain specific enumeration of the following items:*

  (1) a description of the existing capital improvements within the service area and the costs to upgrade, update, improve, expand, or replace the improvements to meet existing needs and usage and stricter safety, efficiency, environmental, or regulatory standards, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;

  (2) an analysis of the total capacity, the level of current usage, and commitments for usage of capacity of the existing capital improvements, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;

  (3) a description of all or the parts of the capital improvements or facility expansions and their costs necessitated by and attributable to new development in the service area based on the approved land use assumptions, which shall be prepared by a qualified professional engineer licensed to perform such professional engineering services in this state;

  (4) a definitive table establishing the specific level or quantity of use, consumption, generation, or discharge of a service unit for each category of capital improvements or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including but not limited to residential, commercial, and industrial;

  (5) the total number of projected service units necessitated by and attributable to new development within the service area based on the approved land use assumptions and calculated in accordance with generally accepted engineering or planning criteria;

  (6) the projected demand for capital improvements or facility expansions required by new service units projected over a reasonable period of time, not to exceed 10 years; and

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(7) a plan for awarding:

(A) a credit for the portion of ad valorem tax and utility service revenues generated by new service unit during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or

(B) in the alternative, a credit equal to 50 percent of the total project cost of implementing the capital improvements plan.

The impact fee study includes information from the 2002 Water System Master Plan Update completed by NRS Engineering and the Wastewater Master Plan Update completed by Kimley-Horn. Because of the length of time since the last formal master plan updates we also interviewed Rowlett Public Works staff. The impact fees are based on the recommended capital improvements and the current population growth projections.

The study process was comprised of four tasks:

A. Land Use Assumptions

The land use assumptions used for this report were provided by the City of Rowlett. The development of land use assumptions included the following:

- Establishing impact fee service areas for water and wastewater;
- Collection/determination of population and employment data; and
- Projection of the ten-year population and employment by service area.

A single service area boundary is defined for both water and wastewater facilities. An illustration of the service areas are shown on Figures 1.1 and 1.2 respectively. The population projection for the next ten years is estimated as follows:

Table 1.1 Population Projection

Year	Population
2013	56,633
2023	65,366
Growth Projection	**8,733**

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B. Evaluation of the Current Water and Wastewater Capital Improvement Plans and Development of the Impact Fee Capital Improvements Plan

This task involved reviewing the City's capital projects shown in the 2003 impact fee report, current capital improvements plans and interviews with planning and public works staff. Both parties provided information allowing us to develop the impact fee capital improvements plan. The water demand projections and wastewater flow projections were then used to determine the additional service units.

C. Impact Fee Analysis and Report

This task included calculating the additional service units, service unit equivalents, and credit reduction. These values were then used to determine the impact fee per service unit and the maximum assessable impact fee by meter size.

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1.2 EXECUTIVE SUMMARY

This study was performed to update the City of Rowlett's Water and Wastewater Impact Fees. Water and Wastewater system analysis and there associated master plans are important tools for facilitating orderly growth of the systems and for providing adequate facilities that promote economic development. The implementation of an impact fee is a way to shift a portion of the burden of paying for new facilities onto new development.

Water

Elements of the water system, including treatment facilities, storage facilities, pumping facilities, and the distribution network itself, were evaluated against industry standards as outlined in the Design Criteria section of this report. Information related to the growth of the City was provided by the Land Use Assumptions.

Water system improvements necessary to serve 10-year (2023) needs were evaluated. Typically, infrastructure improvements are sized beyond the 10-year requirements; however, Texas' impact fee law (Chapter 395) only allows recovery of costs to serve the 10-year planning period. The projected cost to serve the ultimate system needs is $21,881,805 with $6,589,041 eligible for recovery through impact fees.

Wastewater

Elements of the wastewater system, including treatment facilities, and the collection network itself, were evaluated against industry standards as outlined in the Design Criteria section of this report. Information related to the growth was the same as with water.

Wastewater system improvements necessary to serve 10-year (2023) needs were evaluated. Typically, infrastructure improvements are sized beyond the 10-year requirements; however, Texas' impact fee law (Chapter 395) only allows recovery of costs to serve the 10-year planning period. The projected cost to serve the ultimate system needs is $20,341,336 with $6,126,900 eligible for recovery through impact fees.

Water and Wastewater Impact Fees

The impact fee law defines a service unit as follows, "Service Unit means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years." Therefore, the City of Rowlett defines a *service unit* as unit of development that consumes the amount of water requiring a standard 5/8"x 3/4" water meter. For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 5/8"x 3/4" meter. The equivalency factor and associated impact fee by meter size is shown in **Table 1.2**.

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Table 1.2 Maximum Assessable Water and Wastewater Impact Fee for Commonly Used Meters

Meter Size*	Maximum Continuous Operating Capacity (GPM)*	Service Unit Equivalent	Maximum Assessable Fee Water ($)	Maximum Assessable Fee Wastewater ($)
5/8"x 3/4"	10	1	1,466	1,377
1"	25	2.5	3,665	3,443
1 1/2"	50	5	7,330	6,885
2"	80	8	11,728	11,016
3"	160	16	23,456	22,032
4"	250	25	36,650	34,425
6"	500	50	73,300	68,850
8"	800	80	117,280	110,160
10"	11,500	115	168,590	158,355

*Operating capacities obtained from American Water Works Association (AWWA) C-700-09 and C-702-10.

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1.3 WATER

In accordance with the Chapter 290 of the Texas Administrative Code (Public Drinking Water) and the American Water Works Associations (AWWA) requirements for the design and operation of potable water systems the following design criteria is followed when planning for future water infrastructure.

A. DESIGN CRITERIA

I. Water Lines

Water lines are generally sized to maintain the following pressure requirements:

- Peak hour demand with a minimum pressure of 35 psi;
- Night-time tank filling with a maximum pressure of 100 psi; and
- Peak day demand plus fire flow with a minimum pressure of 20 psi.

II. Storage Tanks

The Texas Commission on Environmental Quality (TCEQ) and the State Board of Insurance (SBI) have established criteria for ground and elevated storage. These criteria address volume and height requirements only. The layout of the distribution system, location of the storage facilities, and the interaction with the high service and booster pumps affect the amount of storage necessary for the most efficient and reliable operation of the system.

a. Ground Storage

Ground storage serves two functions:

- Equalization for differing feed rates between the water supply and pumping to the system; and
- Emergency capacity in the event of temporary loss of water supply.

Generally, ground storage facilities are located at water supply points or at each pump station within the water distribution system. Suggested storage capacities are established based on several criteria. There are specific requirements of the TCEQ. These criteria are detailed later in this section. Although ground and elevated storage facilities perform separate functions within the system, both are aimed at decreasing the impact of demand fluctuations. Their capacities are established based on knowledge of how demand varies seasonally and daily.

b. Elevated Storage

Elevated storage serves three purposes:

- Functionally, elevated storage equalizes the pumping rate to compensate for daily variations in demand and to maintain a fairly constant pumping rate (usually referred to as operational storage), or a pumping rate that conforms to the requirements of the electrical rate structure.

- Provides pressure maintenance and protection against surges created by instantaneous demand, such as fire flow and main breaks, and instantaneous change in supply, such as pumps turning on and off.

- Maintains a reserve capacity for fire protection and pressure maintenance in case of power failure to one or more pump stations. Sufficient storage should be maintained to provide four hours of fire flow demand during a loss of power to the pump station.

Suggested storage capacities are established by the TCEQ. Adequate operational storage is established by determining the required volume to equalize the daily fluctuations in flow during the maximum day demand, plus the reserve volume required for fire protection.

The minimum requirements for storage, according to Chapter 290 of the Texas Administrative Code, are as follows:

- Total Storage - Equal to 200 gallons per connection.

- Elevated Storage - Equal to 100 gallons per connection; or

- Elevated Storage – Equal to 200 gallons per connection for a firm pumping capacity reduction from 2.0 gallons per connection to 0.6 gallons per connection.

III. Pump Stations

Pumping capacities must provide the maximum demand or the peak hour demand required by the water system or the suggested capacities established by the TCEQ. Pumping capacity should supply the maximum demand with sufficient redundancy to allow for the largest pump at the pump station to be out of service. This is known as firm pumping capacity.

Each pump station or pressure plane must have two or more pumps that have a total capacity of 2.0 gallons per minute per connection, or have a total capacity of at least 1,000 gallons per minute and the ability to meet peak hour demand with the largest pump out of service, whichever is less. If the system provides elevated storage capacity of 200 gallons per connection, two service pumps with a minimum combined capacity of 0.6 gpm per connection are required.

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B. IMPACT FEE CAPITAL IMPROVEMENTS PLAN

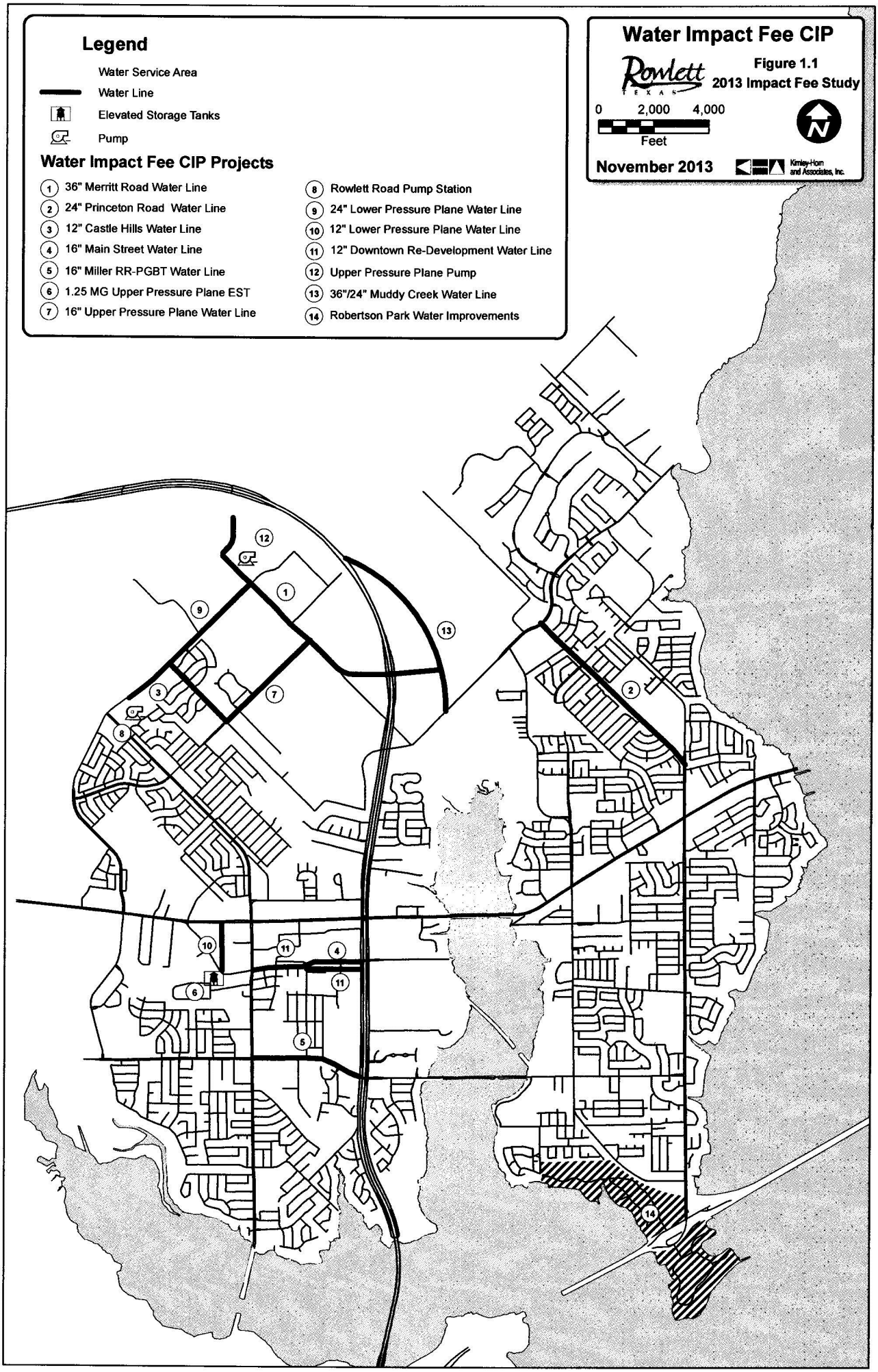
The purpose of a water system master plan is to provide the City with a logical strategy for upgrading and expanding its water distribution system to accommodate future growth and for addressing existing system deficiencies. The impact fee capital improvements plan is developed using projects identified during the master planning process. State law only allows cost recovery associated with eligible projects in a ten (10) year planning window from the time of the impact fee study. The following details the projects and the eligible recoverable cost

Fourteen (14) projects along with the water impact fee study are determined eligible for recoverable cost through impact fee over the next 10 years. The City of Rowlett's total cost of these projects is $21,881,805. The projected recoverable cost through impact fees is $6,589,041. After debt service costs are added and the credit reduction calculation is complete, $4,282,877 is recoverable through impact fees serving the 10-year system needs. These impact fee capital improvements are shown in **Table 1.3** and illustrated in **Figure 1.1**.

Table 1.3 Water Impact Fee Capital Improvements Project Cost and 10-Year Recoverable Cost

Project	2013 Required Capacity (Percent Utilization)	2023 Required Capacity (Percent Utilization)	2013-2023 Required Capacity (Percent Utilization)	Total Project Cost	2023 Projected Recoverable Cost
1	0 %	30 %	30 %	$ 2,975,951	$ 892,785
2	0 %	30 %	30 %	$ 1,375,023	$ 412,507
3	0 %	30 %	30 %	$ 493,451	$ 148,035
4	0 %	30 %	30 %	$ 627,400	$ 188,220
5	0 %	30 %	30 %	$ 856,880	$ 257,064
6	0 %	30 %	30 %	$ 2,700,000	$ 810,000
7	0 %	30 %	30 %	$ 750,000	$ 225,000
8	0 %	30 %	30 %	$ 5,802,100	$ 1,740,630
9	0 %	30 %	30 %	$ 1,000,000	$ 300,000
10	0 %	30 %	30 %	$ 650,000	$ 195,000
11	0 %	30 %	30 %	$ 371,000	$ 111,300
12	0 %	30 %	30 %	$ 330,000	$ 99,000
13	0 %	30 %	30 %	$ 1,915,000	$ 574,500
14	0 %	30 %	30 %	$ 2,000,000	$ 600,000
Water Impact Fee Study	0 %	100 %	100 %	$ 35,000	$ 35,000
Total				**$ 21,881,805**	**$ 6,589,041**

EXHIBIT A


Legend
Water Service Area
Water Line
Elevated Storage Tanks
Pump
Water Impact Fee CIP Projects
1 36" Merritt Road Water Line
2 24" Princeton Road Water Line
3 12" Castle Hills Water Line
4 16" Main Street Water Line
5 16" Miller RR-PGBT Water Line
6 1.25 MG Upper Pressure Plane EST
7 16" Upper Pressure Plane Water Line
8 Rowlett Road Pump Station
9 24" Lower Pressure Plane Water Line
10 12" Lower Pressure Plane Water Line
11 12" Downtown Re-Development Water Line
12 Upper Pressure Plane Pump
13 36"/24" Muddy Creek Water Line
14 Robertson Park Water Improvements
Water Impact Fee CIP
Rowlett TEXAS
Figure 1.1
2013 Impact Fee Study
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November 2013
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C. WATER IMPACT FEE CALCULATION

Chapter 395 of the Local Government Code defines a service unit as follows, "Service Unit means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years." Therefore, the City of Rowlett defines a *service unit* based on historical water usage over the past 10 years as compared to the estimated residential units. The residential unit is the development type that predominately uses 5/8"x 3/4" meter. The measure of consumption per service unit is based on a 5/8"x 3/4" meter and the data shown in **Table 1.4**.

Table 1.4 Water Service Unit Consumption Calculation

Year	Population	Residential Units (3.0 persons/unit)	Water Usage Average Day Demand (MGD)	Consumption per Service Unit (GPD)
2003	51,065	17,022	7.90	464
2004	52,060	17,353	7.18	414
2005	54,229	18,076	8.41	465
2006	54,786	18,262	7.78	426
2007	55,822	18,607	5.78	311
2008	56,103	18,701	7.12	381
2009	57,654	19,218	6.70	349
2010	56,199	18,733	7.66	409
2011	56,348	18,783	8.37	446
2012	56,621	18,874	7.01	372
Average Consumption per Service Unit				**404**

Based on the City's 10-year growth projections and the resulting water demand projections, water service will be required for an additional 2,921 service units. The calculation is as follows:

- A service unit, which is a unit of development that consumes approximately 404 gallons per day (GPD), is a typical residential connection that uses a 5/8"x 3/4" meter. **Table 1.5** outlines the future water demand projections and its relationship to the additional service units projected for the next 10-years.

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Table 1.5 Water 10-year Additional Service Units Calculation

Year	Average Day Demand (MGD)	Service Unit Demand (GPD)	Service Units
2013	7.65	404	18,945
2023	8.82	404	21,866
10-year Additional Service Units			**2,921**

Impact fee law allows for a credit calculation to credit back the development community based on the utility revenues or ad valorem taxes that are allocated for paying a portion of future capital improvements. The intent of this credit is to prevent the City from double charging development for future capital improvements via impact fees and utility rates. If the city chooses not the do a financial analysis to determine the credit value they are required by law to reduce the recoverable cost by 50 percent. The city has chosen not to calculate the credit value. Therefore, the maximum recoverable cost for impact fee shown below is 50 percent of the Pre Credit Recoverable Cost.

A breakdown of the 10-year recoverable costs and the associated impact fee per service unit is as follows:

Table 1.6 Water 10-year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	$6,589,041
Debt Service	$1,976,712
Pre Credit Recoverable Cost for Impact Fee	$8,565,753
Credit for Utility Revenues	($4,282,877)
Maximum Recoverable Cost for Impact Fee	**$4,282,877**

$$\text{Impact fee per service unit} = \frac{\text{10-year recoverable costs}}{\text{10-year additional service units}}$$

$$\text{Impact fee per service unit} = \frac{\$4,282,877}{2,921}$$

$$\text{Impact fee per service unit} = \$1,466$$

Therefore, the maximum assessable impact fee per service unit is $1,466.

For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 5/8"x 3/4" meter. The maximum impact fee that could be assessed for other meter sizes is based on the value shown on **Table 1.7**, Service Unit Equivalency Table for Commonly Used Meters.

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Table 1.7 Water Service Unit Equivalency Table for Commonly Used Meters

Meter Size	Maximum Continuous Operating Capacity (GPM) *	Service Unit Equivalent	Maximum Assessable Fee Water ($)
5/8"x 3/4"	10	1	1,466
1"	25	2.5	3,665
1 1/2"	50	5	7,330
2"	80	8	11,728
3"	160	16	23,456
4"	250	25	36,650
6"	500	50	73,300
8"	800	80	117,280
10"	1,150	115	168,590

*Operating capacities obtained from American Water Works Association (AWWA) C-700-09 and C-702-10.

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1.4 WASTEWATER

In accordance with the Chapter 217 of the Texas Administrative Code (Design Criteria for Domestic Wastewater Systems) the following design criteria is followed when planning for future wastewater infrastructure.

A. DESIGN CRITERIA

I. Sewer Trunk Lines (Interceptors)

The design criteria for sewer trunk lines or interceptors is based on the TCEQ requirements that meet peak wet weather design flows with no overflows while maintaining a minimum of 2 ft/sec cleaning velocity and a maximum of 8 ft/sec velocity.

II. Lift Stations Pumping Capacity

The design criteria for lift station pumping shall be to provide firm pumping capacity to meet 125% of the peak wet weather design flows. The firm pumping capacity is defined as the available total pumping capacity with the largest pump out of service.

III. Lift Station Wet Well Capacity

The design criteria for lift station wet wells are to provide adequate volumes to limit pump cycling to once every 10 minutes. Based on this criterion, the required operating volume for each pump can be calculated as

$V = tQ/4$ where,
$t =$ Maximum pump cycling time = 10 minutes
$Q =$ Lead pump discharge rate in gallons per minute (gpm)
$V =$ Required wet well volume between pump start and stop elevation

IV. Force Mains

The design criteria recommended for force mains is to meet the required pumping capacity of the lift station at a velocity less than 8 feet per second and a maximum discharge pressure of 100 psi and to allow a minimum of 2 feet per second scouring velocity during a single pump operation.

B. IMPACT FEE CAPITAL IMPROVEMENTS PLAN

The purpose of a wastewater master plan is to provide the City with a logical strategy for upgrading and expanding its wastewater collection system to accommodate future growth and for addressing existing system deficiencies. The impact fee capital improvements plan is developed using projects identified during the master planning process. State law only allows cost recovery associated with eligible projects in a ten (10) year planning window from the time of the impact fee study. The following details the projects and the eligible recoverable cost.

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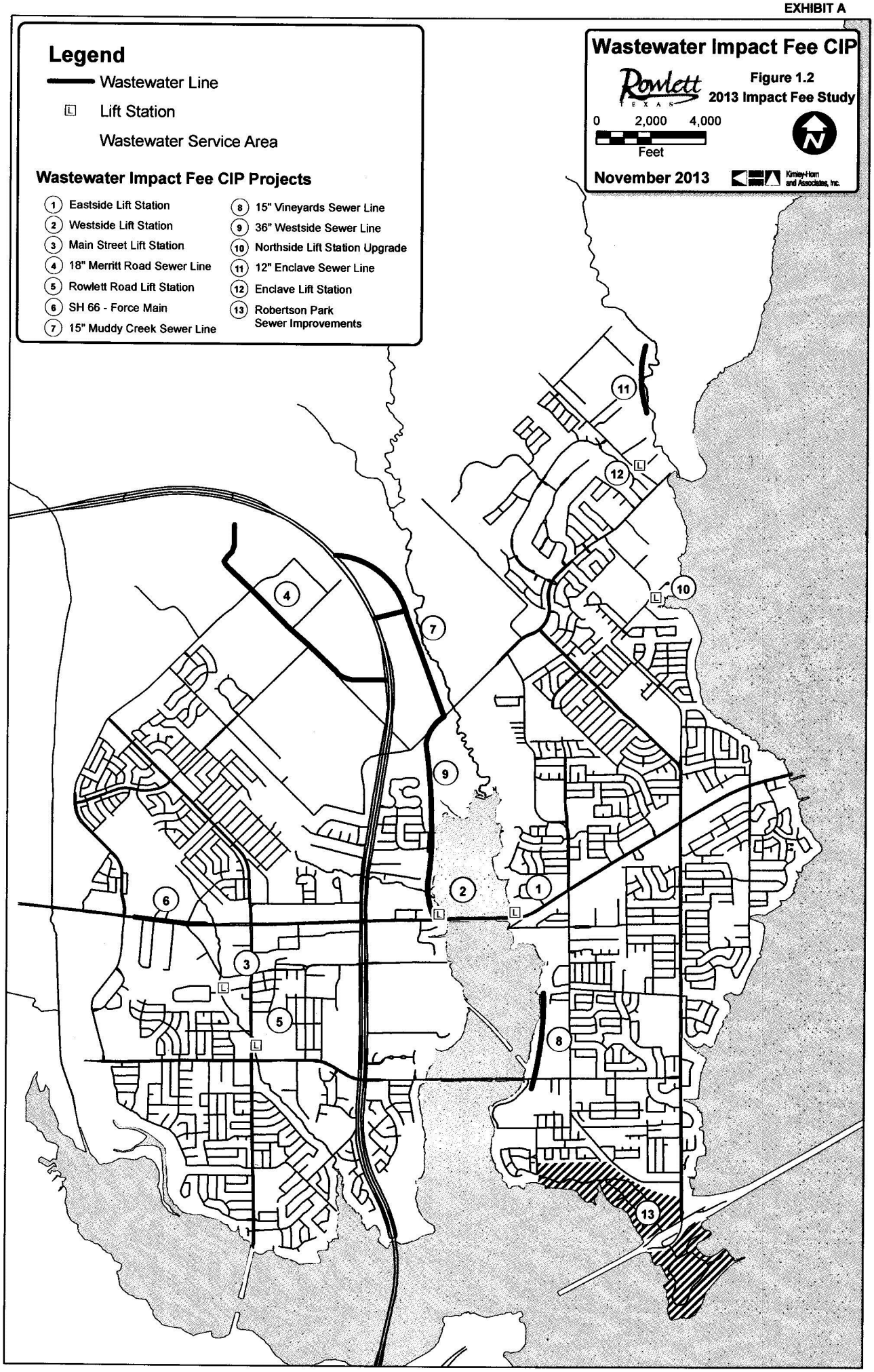
Thirteen (13) projects along with the wastewater impact fee study are determined eligible for recoverable cost through impact fee over the next 10 years. The City of Rowlett's total cost of these projects is $20,341,336. The projected recoverable cost through impact fees is $6,126,900. After debt service costs are added and the credit reduction calculation is complete, $3,982,485 is recoverable through impact fees serving the 10-year system needs. These impact fee capital improvements are shown in **Table 1.8** and illustrated in **Figure 1.2**.

Table 1.8 Wastewater Impact Fee Capital Improvements
Project Cost and 10-Year Recoverable Cost

Project	2013 Required Capacity (Percent Utilization)	2023 Required Capacity (Percent Utilization)	2013-2023 Required Capacity (Percent Utilization)	Total Project Cost	2023 Projected Recoverable Cost
1	0 %	30 %	30 %	$ 971,240	$ 291,372
2	0 %	30 %	30 %	$ 892,000	$ 267,600
3	0 %	30 %	30 %	$ 339,488	$ 101,846
4	0 %	30 %	30 %	$ 1,921,180	$ 576,354
5	0 %	30 %	30 %	$ 601,127	$ 180,338
6	0 %	30 %	30 %	$ 4,200,000	$ 1,260,000
7	0 %	30 %	30 %	$ 1,900,000	$ 570,000
8	0 %	30 %	30 %	$ 32,000	$ 9,600
9	0 %	30 %	30 %	$ 1,400,000	$ 420,000
10	0 %	30 %	30 %	$ 537,000	$ 161,100
11	0 %	30 %	30 %	$ 291,810	$ 87,543
12	0 %	30 %	30 %	$ 220,491	$ 66,147
13	0 %	30 %	30 %	$ 7,000,000	$ 2,100,000
Wastewater Impact Fee Study	0 %	100 %	100 %	$ 35,000	$ 35,000
Total				**$ 20,341,336**	**$ 6,126,900**

EXHIBIT A


Legend
Wastewater Line
Lift Station
Wastewater Service Area
Wastewater Impact Fee CIP Projects
1 Eastside Lift Station
2 Westside Lift Station
3 Main Street Lift Station
4 18" Merritt Road Sewer Line
5 Rowlett Road Lift Station
6 SH 66 - Force Main
7 15" Muddy Creek Sewer Line
8 15" Vineyards Sewer Line
9 36" Westside Sewer Line
10 Northside Lift Station Upgrade
11 12" Enclave Sewer Line
12 Enclave Lift Station
13 Robertson Park Sewer Improvements
Wastewater Impact Fee CIP
Rowlett TEXAS
Figure 1.2
2013 Impact Fee Study
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Rowlett TEXAS

C. WASTEWATER IMPACT FEE CALCULATION

Chapter 395 of the Local Government Code defines a service unit as follows, "Service Unit means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years." Therefore, the City of Rowlett defines a service unit based on historical wastewater discharge over the past 10 years as compared to the estimated residential units. The residential unit is the development type that predominately uses a 5/8"x 3/4" meter. The measure of discharge per service unit is based on a 5/8"x 3/4" meter the data shown in **Table 1.9**.

Table 1.9 Wastewater Service Unit Consumption Calculation

Year	Population	Residential Units (3.0 persons/unit)	Wastewater Flow Average Day Demand (MGD)	Flow per Service Unit (GPD)
2003	51,065	17,022	3.47	204
2004	52,060	17,353	3.93	226
2005	54,229	18,076	4.22	233
2006	54,786	18,262	3.80	208
2007	55,822	18,607	4.01	215
2008	56,103	18,701	3.54	189
2009	57,654	19,218	3.72	194
2010	56,199	18,733	3.72	199
2011	56,348	18,783	3.70	197
2012	56,621	18,874	4.12	218
Average Flow per Service Unit				**208**

Based on the City's 10-year growth projections and the resulting wastewater flow projections, wastewater service will be required for an additional 2,892 service units. The calculation is as follows:

- A service unit, which is a unit of development that discharges approximately 208 gallons per day (GPD), is a typical residential connection that uses a 5/8" x 3/4" meter. **Table 1.10** outlines the future wastewater discharge projections and its relationship to the additional service units projected for the next 10-years.

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Table 1.10 Wastewater 10-year Additional Service Unit Calculation

Year	Average Day Flow (MGD)	Service Unit Demand (GPD)	Service Units
2013	3.91	208	18,752
2023	4.51	208	21,644
10-year Additional Service Units			**2,892**

Impact fee law allows for a credit calculation to credit back the development community based on the utility revenues or ad valorem taxes that are allocated for paying a portion of future capital improvements. The intent of this credit is to prevent the City from double charging development for future capital improvements via impact fees and utility rates. If the city chooses not the do a financial analysis to determine the credit value they are required by law to reduce the recoverable cost by 50 percent. The city has chosen not to calculate the credit value. Therefore, the maximum recoverable cost for impact fee shown below is 50 percent of the Pre Credit Recoverable Cost.

A breakdown of the 10-year recoverable costs and the associated impact fee per service unit is as follows:

Table 1.11 Wastewater 10-year Recoverable Cost Breakdown

Recoverable Impact Fee CIP Costs	$6,126,900
Debt Service	$1,838,070
Pre Credit Recoverable Cost for Impact Fee	$7,964,970
Credit for Utility Revenues	($3,982,485)
Maximum Recoverable Cost for Impact Fee	**$3,982,485**

$$\text{Impact fee per service unit} = \frac{\text{10-year recoverable costs}}{\text{10-year additional service units}}$$

$$\text{Impact fee per service unit} = \frac{\$3,982,485}{2,892}$$

$$\text{Impact fee per service unit} = \$1,377$$

Therefore, the maximum assessable impact fee per service unit is $1,377.

For a development that requires a different size meter, a service unit equivalent is established at a multiplier based on its capacity with respect to the 5/8" x 3/4" meter. The maximum impact fee that could be assessed for other meter sizes is based on the value shown on **Table 1.12**, Service Unit Equivalency Table for Commonly Used Meters.

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Table 1.12 Wastewater Service Unit Equivalency Table for Commonly Used Meters

Meter Size	Maximum Continuous Operating Capacity (GPM) *	Service Unit Equivalent	Maximum Assessable Fee Wastewater ($)
5/8"x 3/4"	10	1	1,377
1"	25	2.5	3,443
1 1/2"	50	5	6,885
2"	80	8	11,016
3"	160	16	22,032
4"	250	25	34,425
6"	500	50	68,850
8"	800	80	110,160
10"	1,150	115	158,355

*Operating capacities obtained from American Water Works Association (AWWA) C-700-09 and C-702-10.

EXHIBIT A

2013 Roadway Impact Fee Study

City of Rowlett, Texas

Rowlett
TEXAS

Prepared by:

Kimley-Horn
and Associates, Inc.
Texas Registration Number 928

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Fort Worth, TX 76102
817.335.6511

November 2013

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2.1 EXECUTIVE SUMMARY

This study was performed to update the City of Rowlett Roadway Impact Fees. Transportation system analysis is an important tool for facilitating orderly growth of the transportation system and for providing adequate facilities that promote economic development in the City of Rowlett. The implementation of an impact fee is a way to shift a portion of the burden of paying for new facilities onto new development.

The City of Rowlett is divided into two (2) service areas for the purposes of the 2013 Roadway Impact Fee Study. These service areas cover the entire corporate boundary of the City of Rowlett. Each service area is an individual study area. For each service area the funds collected must be spent on projects identified in the Roadway Impact Fee Capital Improvement Program (CIP) for that specific service area.

Roadway improvements necessary to serve the 10-year (2013-2023) needs were evaluated. Typically, infrastructure improvements are sized beyond the 10-year requirements; however, Texas' impact fee law (Chapter 395) only allows recovery of costs to serve the 10-year planning period. For example, the projected recoverable cost to construct the infrastructure needed through 2023 by service area is:

SERVICE AREA:	1 (North)	2 (South)
COST OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH	$ 22,001,285	$ 10,200,663

A portion of the remainder can be assessed as the planning window extends beyond 2023 and as the impact fees are updated in the future. As required by Chapter 395 this total cost is reduced by 50% to account for the credit of the use of ad valorem taxes to fund the Roadway Impact Fee CIP.

The impact fee law defines a service unit as follows: "Service Unit means a standardized measure of consumption attributable to an individual unit of development calculated in accordance with generally accepted engineering or planning standards and based on historical data and trends applicable to the political subdivision in which the individual unit of development is located during the previous 10 years."

Therefore, the City of Rowlett defines a *service unit* as the number of vehicle-miles of travel during the afternoon peak-hour. For each type of development the City of Rowlett utilizes the Land Use/Vehicle-Mile Equivalency Table (LUVMET) to determine the number of service units.

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Based on the City's 10-year growth projections and the associated demand (consumption) values for each service area are as follow in terms of vehicle-miles:

SERVICE AREA:	1 (North)	2 (South)
TOTAL VEHICLE-MILES OF NEW DEMAND OVER TEN YEARS	12,867	7,305

Based on the additional service units and the recoverable capital improvements plans, the City may assess a maximum roadway impact fee per vehicle-mile ([Recoverable Cost of CIP*50%] / Total Growth) of:

SERVICE AREA:	1 (North)	2 (South)
MAX ASSESSABLE FEE PER SERVICE UNIT	$ 855	$ 698

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2.2 INTRODUCTION

Chapter 395 of the Texas Local Government Code describes the procedure Texas cities must follow in order to create and implement impact fees. Senate Bill 243 (SB 243) amended Chapter 395 in September 2001, to define an impact fee as "a charge or assessment imposed by a political subdivision against new development in order to generate revenue for funding or recouping the costs of capital improvements or facility expansions necessitated by and attributable to the new development."

Chapter 395 mandates that impact fees be reviewed and updated at least every five (5) years. Accordingly, the City of Rowlett has developed its Land Use Assumptions and Roadway Capital Improvement Plan (CIP) with which to update the City's Roadway Impact Fees. The City has retained Kimley-Horn and Associates, Inc. to provide professional transportation engineering services for the 2013 Roadway Impact Fee Study. This report includes details of the impact fee calculation methodology in accordance with Chapter 395, the applicable Land Use Assumptions, development of the CIP, and the refinement of the Land Use Equivalency Table.

This report introduces and references two of the basic inputs to the Roadway Impact Fee: the **Land Use Assumptions** and the **Capital Improvement Plan (CIP)**. Information from these two components is used extensively in the remainder of the report. This report consists of a detailed discussion of the methodology for the computation of impact fees. This discussion - **Methodology for Roadway Impact Fees** and **Impact Fee Calculation** addresses each of the components of the computation and modifications required for the study. The components include:

- Service Areas;
- Service Units;
- Cost Per Service Unit;
- Cost of the CIP;
- Service Unit Calculation;
- Maximum Assessable Impact Fee Per Service Unit; and
- Service Unit Demand Per Unit of Development.

The report also includes a section concerning the **Plan for Awarding the Roadway Impact Fee Credit**. In the case of the City of Rowlett, the credit calculation was based on awarding a 50 percent credit.

The final section of the report is the **Conclusion**, which presents the findings of the update analysis.

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2.3 ROADWAY IMPACT FEE CALCULATION INPUTS

A. LAND USE ASSUMPTIONS

The land use assumptions used for this report were provided by the City of Rowlett. The information regarding the land use assumptions has been included in the **Appendix**. For purposes of roadway impact fees, the City of Rowlett was divided into two service areas contained entirely within the current corporate limits. Lakeview Parkway (SH 66) serves as the dividing line between the two areas. Exhibit 2.1 displays the roadway Service Areas. In previous studies, the City of Rowlett was divided into four (4) service areas; however during this study further evaluation concluded that the service areas could be reduce to two.

The population and employment estimates and projections were all compiled in accordance with the following categories:

Dwelling Units: Number of dwelling units, both single-and multi-family.

Employment: Square feet of building area based on three (3) different classifications. Each classification has unique trip making characteristics.

Retail: Land use activities which provide for the retail sale of goods that primarily serve households and the location choice is oriented toward the household sector, such as grocery stores and restaurants.

Service: Land use activities which provide personal and professional services such as government and other professional administrative offices.

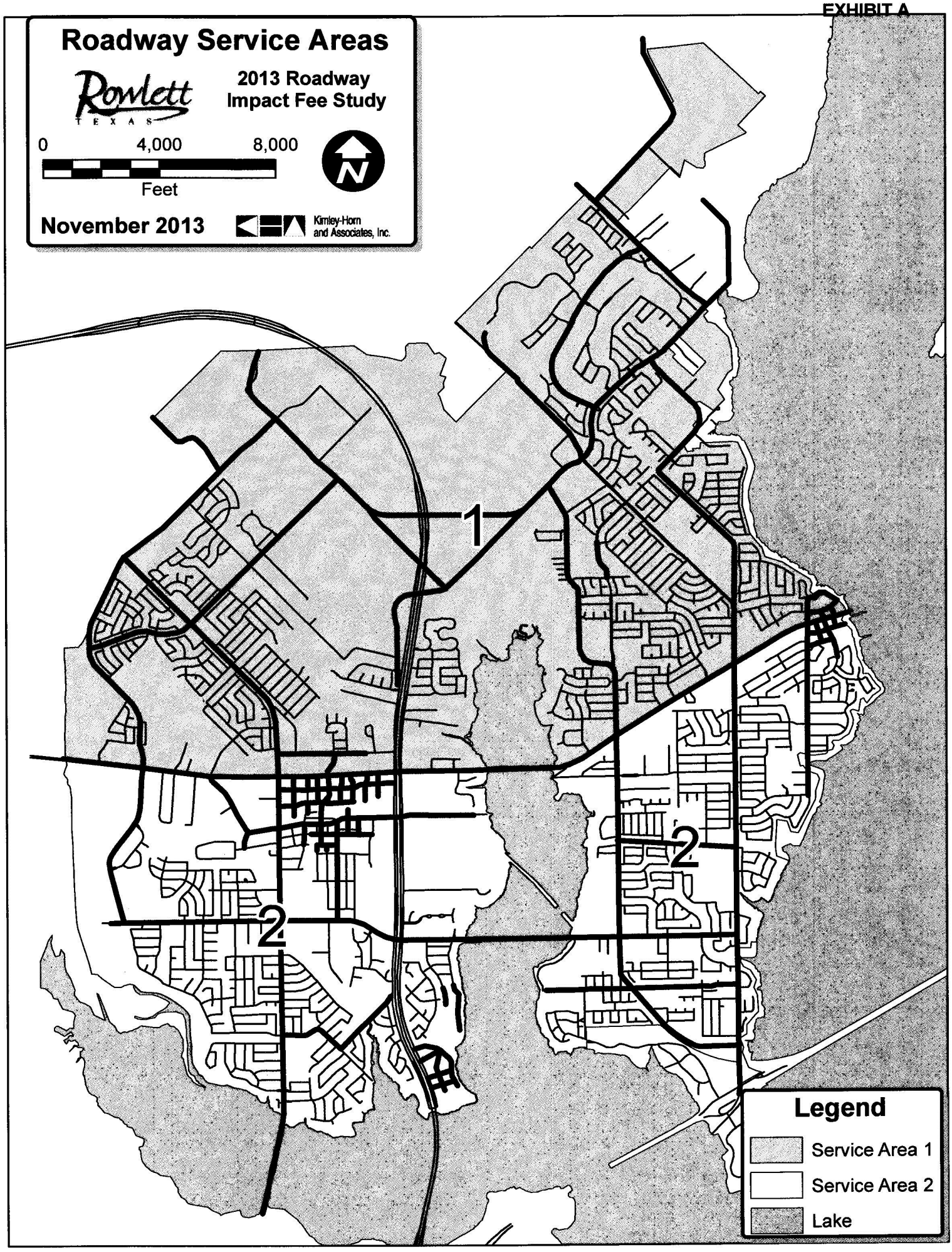
Basic: Land use activities that produce goods and services such as those that export outside of the local economy, such as manufacturing, construction, transportation, wholesale, trade, warehousing, and other industrial uses.

Table 2.1 presents the land use assumptions provided by the City that were utilized in the roadway impact fee development. This table illustrates the growth that is projected for the City of Rowlett between 2013 – 2023.

Table 2.1 Residential and Non-Residential Land Use Assumption Growth Projections (2013-2023)

SERVICE AREA	DWELLING UNITS	BASIC (ft^2)	SERVICE (ft^2)	RETAIL (ft^2)
1	1,013	422,500	270,000	474,300
2	253	227,500	180,00	455,700

EXHIBIT A


Roadway Service Areas
Rowlett
TEXAS
2013 Roadway
Impact Fee Study
0
4,000
8,000
Feet
November 2013
Kimley-Horn
and Associates, Inc.
1
2
2
Legend
Service Area 1
Service Area 2
Lake

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B. Capital Improvement Plan

The City has identified the City-funded transportation projects needed to accommodate the projected growth within the City. The CIP for Roadway Impact Fees is made up of:

- Recently completed projects with excess capacity available to serve new growth;
- Projects currently under construction; and
- Remaining projects needed to complete the City's Master Thoroughfare Plan.

The CIP includes arterial and collector facilities. All of the arterial and collector facilities are part of the currently adopted Master Thoroughfare Plan or included in one of the Council adopted specific area roadway plans (Downtown, Healthy Living, or Signature Gateway).

The CIP for Roadway Impact Fees that is proposed for the Roadway Impact Fee Study is listed in **Tables 2.2** and **2.3**, and mapped in **Exhibit 2.2 (Service Area 1)** and **Exhibit 2.3 (Service Area 2)**. The tables show the length of each project as well as the facility's classification. The CIP was developed in conjunction with input from City of Rowlett staff and represents those projects that will be needed to accommodate the growth projected from the land use assumptions.

The various roadway classifications describe the purpose and function of each roadway. These roadway classifications are based on the existing City of Rowlett Master Thoroughfare Plan. There are seven primary classifications that were used in the 2013 Rowlett Roadway Impact Fee Study. These classifications are:

- Major Thoroughfare – 6 Lanes Divided (A+);
- Major Thoroughfare – 6 Lanes Divided (A);
- Secondary Thoroughfare – 4 Lanes Divided (B+);
- Secondary Thoroughfare – 4 Lanes Undivided (B); and
- Collector Thoroughfare – 2 Lanes Undivided (C).

The specific area roadway plans were identified as SG (Signature Gateway), D (Downtown), or HL (Healthy Living). Each of the classifications have different vehicular capacities assigned to them (see **Table 2.4**) based on their roadway characteristics. Major/secondary arterial thoroughfares are designed to move more traffic and provide a larger amount of capacity. Arterials provide for travel between neighborhoods and commercial areas or serve as routes for thru-traffic from adjacent cities. A collector's primary function is to bring traffic from local streets to arterial facilities. Collectors are intended to move less traffic and are designed with lower vehicular capacity than arterial facilities.

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Table 2.2 10-Year Roadway Impact Fee Capital Improvement Plan for Service Area 1

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area
SA 1	1-A	B	Castle Dr.	Miles Rd. to Merritt Rd.	0.51	100%
	1-B	B, B+	Hickox Rd. (1)	Rowlett Rd. to 235' NE. of Toler Rd.	0.59	100%
	1-C	B+	Hickox Rd. (2)	235' NE. of Toler Rd. to Merritt Rd.	0.76	100%
	1-D	B	Merritt Rd.	N. City Limit to 860' SE. of	1.52	100%
	1-E	A	Liberty Grove-Merritt Connector (1)	PGBT NBFR to 805' E. of PGBT NBFR	0.15	100%
	1-F	B	Liberty Grove-Merritt Connector (2)	805' E. of PGBT NBFR to Liberty Grove Rd.	0.49	100%
	1-G	B	Liberty Grove Rd. (1)	Rosebud Dr. to PGBT SBFR	0.67	100%
	1-H	B	Liberty Grove Rd. (2)	PGBT NBFR to Merritt Rd.	0.16	100%
	1-I	B	Liberty Grove Rd. (3)	Merritt Rd. to Chiesa Rd.	0.95	100%
	1-J	B	Liberty Grove Rd. (4)	Chiesa Rd. to Princeton Rd.	0.28	100%
	1-K	B	Liberty Grove Rd. (5)	Broadmoor Ln. to Elm Grove Rd.	0.84	100%
	1-L	B	Elm Grove Rd.	N. City Limit to Liberty Grove Rd.	1.08	100%
	1-M	B+	Dalrock Rd. (1)	Liberty Grove Rd. to 770' SE. of Lake North Rd.	0.46	100%
	1-N	B+	Dalrock Rd. (2)	105' NE. of Pecan Ln. to Princeton Rd.	1.45	100%
	1-O	A (1/3)	Dalrock Rd. (3)	Princeton Rd. to Lakeview Pkwy.	0.36	100%
	1-P	C	Princeton Rd.	Existing Princeton Rd. to Liberty Grove Rd.	0.19	100%
	1-Q	B	Chiesa Rd. (1)	Liberty Grove Rd. to Danridge Rd.	1.40	100%
	1-R	C	Danridge Rd.	Maplewood Dr. to Traveler's Crossing	0.25	100%
	1-S	C	Freedom Ln.	Big A. Rd. to Lakeview Pkwy.	0.15	100%
	1-T, 2-L	A+ (1/3)	Lakeview Pkwy.	Dalrock Rd. to E. City Limit	0.80	50%
	1-U	HL-C3	HL Collector #1	HL Collector #1	0.22	100%
	1-V	HL-C2	HL Collector #2	HL Collector #2	0.22	100%
	1			Dalrock Rd. at Lakeview Pkwy.		50%
	2			Liberty Grove Rd. at Chiesa Rd.		100%
	3			Princeton Rd. at Liberty Grove Rd.		100%
	4			Merritt Rd. at Hickox Rd.		100%
	5			Merritt Rd. at Castle Dr.		100%
	6			Merritt Rd. at Liberty Grove Rd.		100%
	7			Merritt Rd. at PGBT		100%

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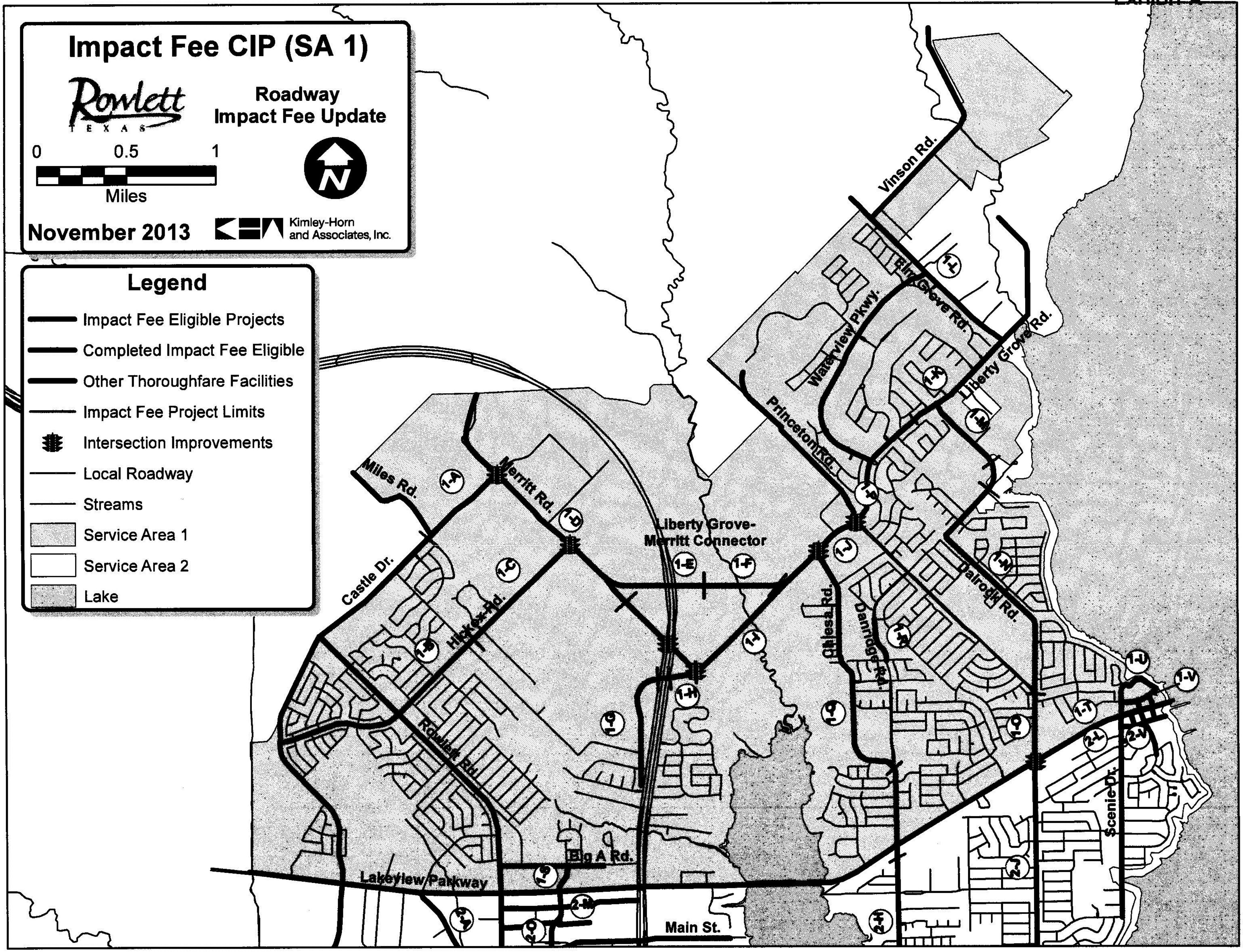
Table 2.3 10-Year Roadway Impact Fee Capital Improvement Plan for Service Area 2

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area
SA 2	2-A	B	Main St.	Lakeview Pkwy. to 310' W. of Rowlett Rd.	0.58	100%
	2-B	B	Future Main-Century Connection	Main St. to Century Dr.	0.11	100%
	2-C	A (1/3)	Miller Rd. (1)	Dexham Rd. to Rowlett Rd.	1.02	100%
	2-D	A (1/3)	Miller Rd. (2)	Rowlett Rd. to PGBT SBFR	0.77	100%
	2-E	A (1/3)	Miller Rd. (3)	PGBT NBFR to 360' E. of PGBT NBFR	0.07	100%
	2-F	A	Miller Rd. (4)	360' E. of PGBT NBFR to Lake Ray Hubbard Bridge	0.33	100%
	2-G	A	Miller Rd. (5)	Lake Ray Hubbard Bridge to 372' W. of Dalrock Rd.	1.02	100%
	2-H	B+	Chiesa Rd. (2)	360' S. of Lakeview Pkwy. to Miller Rd.	1.25	100%
	2-I	B+	Chiesa Rd. (3)	Miller Rd. to Dalrock Rd.	1.21	100%
	2-J	A (1/3)	Dalrock Rd. (4)	Lakeview Pkwy. to Miller Rd.	1.79	100%
	2-K	A (1/3)	Dalrock Rd. (5)	Miller Rd. to S. City Limits	0.83	100%
	1-T, 2-L	A+ (1/3)	Lakeview Pkwy.	Dalrock Rd. to E. City Limit	0.80	50%
	2-M	D-C	Melcer Dr.	Melcer Dr. Extension	0.20	100%
	2-N	D-C	Martin Dr. (1)	Coyle St. to South End	0.17	100%
	2-O	C	Martin Dr. (2)	Melcer Dr. to Coyle St.	0.11	100%
	2-P	A (1/3)	Rowlett Rd.	Century Dr. to Kyle Rd.	0.31	100%
	2-Q	SG-C5	SG Collector #1	SG Collector #1	0.28	100%
	2-R	SG-C5	SG Collector #2	SG Collector #2	0.07	100%
	2-S	SG-C5	SG Collector #3	SG Collector #3	0.16	100%
	2-T	SG-C4	SG Collector #4	SG Collector #4	0.17	100%
	2-U	SG-A+	SG Major Thoroughfare	SG Major Thoroughfare	0.09	100%
	2-V	HL-C1	HL Collector #3	HL Collector #3	0.13	100%
	1		Intersection Improvement	Dalrock Rd. at Lakeview Pkwy.		50%
	2		Intersection Improvement	Dalrock Rd. at Chiesa Rd.		100%
	3		Signal Installation	Dexham Rd. at Miller Rd.		100%

EXHIBIT A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Rowlett TEXAS
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Miles
November 2013
Kimley-Horn and Associates, Inc.
Legend
Impact Fee Eligible Projects
Completed Impact Fee Eligible
Other Thoroughfare Facilities
Impact Fee Project Limits
Intersection Improvements
Local Roadway
Streams
Service Area 1
Service Area 2
Lake
Vinson Rd.
Elm Grove Rd.
Liberty Grove Rd.
Waterview Pkwy.
Princeton Rd.
Miles Rd.
Merritt Rd.
Liberty Grove-
Merritt Connector
Castle Dr.
Hickox Rd.
Chiesa Rd.
Danridge Rd.
Dalrock Rd.
Rowlett Rd.
Big A Rd.
Lakeview Parkway
Main St.
Scenic Dr.
1-A
1-B
1-C
1-D
1-E
1-F
1-G
1-H
1-I
1-J
1-K
1-L
1-M
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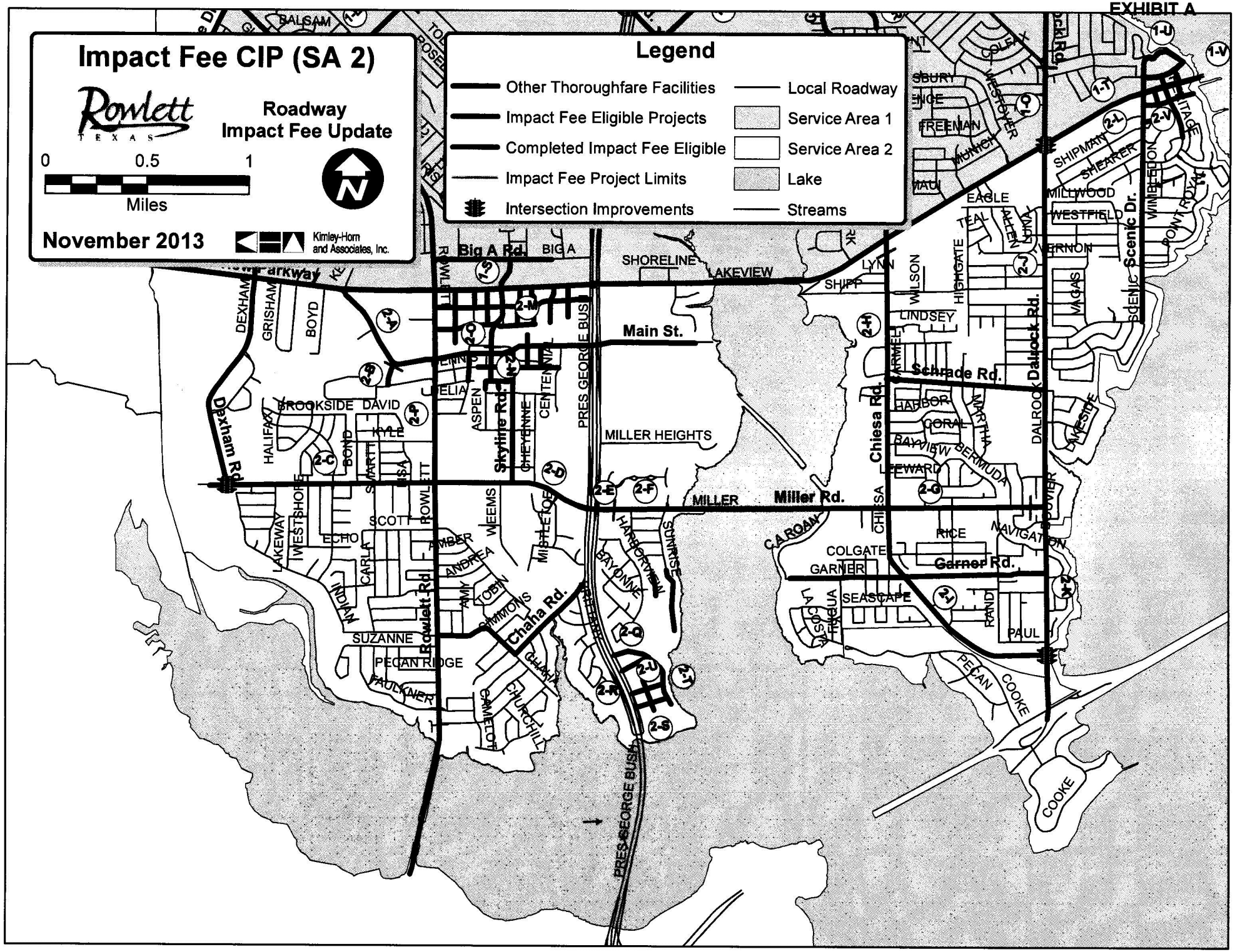
EXHIBIT A


Impact Fee CIP (SA 2)
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Roadway
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Miles
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Impact Fee Project Limits
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Service Area 1
Service Area 2
Lake
Streams
Big A Rd.
Main St.
Schrade Rd.
Miller Rd.
Garner Rd.
Dalrock Rd.
Dexham Rd.
Skyline Rd.
Chiesa Rd.
Rowlett Rd.
Chaha Rd.
Scenic Dr.
PRES GEORGE BUSH
SHORELINE
LAKEVIEW
MILLER HEIGHTS
BALSAM
FREEMAN
EAGLE
WESTFIELD
MILLWOOD
SHIPMAN
SHEARER
LYNN
LINDSEY
WILSON
HIGHGATE
VERNON
VAGAS
DEXHAM
GRISHAM
BOYD
BROOKSIDE
DAVID
KYLE
HALIFAX
BOND
SMART
ASPEN
CHEYENNE
CENTENNIAL
HARBOR
CORAL
BAYVIEW
BERMUDA
LEEWARD
NORTH
DALROCK
LAKESIDE
WESTSHORE
LAKEWAY
ECHO
SCOTT
ROWLETT
WEEMS
AMBER
ANDREA
AMY
TOBY
SIMMONS
MISTLETOE
HARBORVIEW
BAYSHORE
SUNRISE
CARLA
INDIAN
SUZANNE
PECAN RIDGE
FAULKNER
CHURCHILL
CAMELOT
CHAHA
CARROLL
CHIESA
RICE
COLGATE
GARNER
NAVIGATION
SEASCAPE
LA COSTA
RIVIERA
RAND
PAUL
PECAN
COOKE

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2.4 METHODOLOGY FOR ROADWAY IMPACT FEES

A. SERVICE AREA

The service areas used in the 2013 Roadway Impact Fee Study are shown in the previously referenced **Exhibit 2.1**. Chapter 395 of the Texas Local Government Code specifies that "the service areas are limited to an area within the corporate boundaries of the political subdivision and shall not exceed six (6) miles." Based on the guidance in Chapter 395 and examination of the City of Rowlett, two roadway service areas were deemed appropriate. These service areas cover the entire corporate boundary of the City of Rowlett. Service Area 1 is located north of Lakeview Parkway (SH 66) and Service Area 2 is located south of Lakeview Parkway (SH 66). Both service areas are approximately five (5) miles in diameter.

B. SERVICE UNITS

The "service unit" is a measure of consumption or use of the roadway facilities by new development. In other words, it is the measure of supply and demand for roads in the City. For transportation purposes, the service unit is defined as a vehicle-mile. On the supply side, this is a lane-mile of an arterial street. On the demand side, this is a vehicle-trip of one-mile in length. The application of this unit as an estimate of either supply or demand is based on travel during the afternoon peak hour of traffic. This time period is commonly used as the basis for transportation planning and the estimation of trips created by new development.

Another aspect of the service unit is the service volume that is provided (supplied) by a lane-mile of roadway facility. This number, also referred to as capacity, is a function of the facility type, facility configuration, number of lanes, and level of service.

The hourly service volumes used in the 2013 Roadway Impact Fee Study are based upon Thoroughfare Capacity Criteria published by the North Central Texas Council of Governments (NCTCOG), but have been adjusted to the City of Rowlett's Master Thoroughfare Plan. **Tables 2.4** and **2.5** show the service volumes utilized in this report.

Table 2.4 Level of Use for Proposed Facilities
(used in Appendix B – CIP Service Units of Supply)

Roadway Type (MTP Classifications)	Median Configuration	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
Major Thoroughfare (A+)	Divided	700
Major Thoroughfare (A)	Divided	700
Secondary Thoroughfare (B+)	Divided	700
Secondary Thoroughfare (B)	Undivided	625
Collector Thoroughfare (C)	Undivided	500
Signature Gateway, Healthy Living, and Downtown Roadways	Undivided	425

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Table 2.5 Level of Use for Existing Facilities
(used in Appendix C – Existing Roadway Facilities Inventory)

Roadway Type	Description	Hourly Vehicle-Mile Capacity per Lane-Mile of Roadway Facility
2U-A	Two lane undivided – Rural cross-section	450
2U	Two lane undivided	500
3U	Three lane undivided (TWLTL)	550
4U	Four lane undivided	500
4D	Four lane divided	650
6D	Six lane divided	700

C. Cost Per Service Unit

A fundamental step in the impact fee process is to establish the cost for each service unit. In the case of the roadway impact fee, this is the cost for each vehicle-mile of travel. This cost per service unit is the cost to construct a roadway (lane-mile) needed to accommodate a vehicle-mile of travel at a level of service corresponding to the City's standards. The cost per service unit is calculated for each service area based on a specific list of projects within that service area.

The second component of the cost per service unit is the number of service units in each service area. This number is the measure of the growth in transportation demand that is projected to occur in the ten-year period. Chapter 395 requires that Impact Fees be assessed only to pay for growth projected to occur in the city limits within the next ten years, a concept that will be covered in a later section of this report (**see Section 2.3.E**). As noted earlier, the units of demand are vehicle-miles of travel.

D. Cost of the CIP

The costs that may be included in the cost per service unit are all of the implementation costs for the 2013 Roadway Impact Fee Study, as well as project costs for thoroughfare system elements within the Capital Improvement Plan. Chapter 395 of the Texas Local Government Code specifies that the allowable costs are "...including and limited to the:

1. Construction contract price;
2. Surveying and engineering fees;
3. Land acquisition costs, including land purchases, court awards and costs, attorney's fees, and expert witness fees; and
4. Fees actually paid or contracted to be paid to an independent qualified engineer or financial consultant preparing or updating the Capital Improvement Plan who is not an employee of the political subdivision."

The engineer's opinion of the probable costs of the projects in the CIP is based, in part, on the calculation of a unit cost of construction. This means that a cost per linear foot of roadway is calculated based on an average price for the various components of roadway construction. This allows the probable cost to be determined by the type of facility being constructed, the number of lanes, and the length of the project. The costs for location-specific items such as bridges, highway ramps, drainage structures, and any other special components are added to each project

as appropriate. In addition, based upon discussions with City of Rowlett staff, State, County, and developer driven projects in which the City has contributed a portion of the total project cost have been included in the CIP as lump sum costs.

A typical roadway project consists of a number of costs, including the following: construction, design engineering, survey, and right-of way acquisition. While the construction cost component of a project may actually consist of approximately 100 various pay items, a simplified approach was used for developing the conceptual level project costs. Each new project's construction cost was divided into two cost components: roadway construction cost and major construction component allowances. The roadway construction components consist of the following pay items: (1) street excavation, (2) lime stabilization, (3) concrete pavement, (4) topsoil, (5) concrete sidewalks, and (6) turn lanes and median openings.

Based on the paving construction cost subtotal, a percentage of this total is calculated to allot for major construction component allowances. These allowances include preparation of ROW, traffic control, pavement markings, roadway drainage, illumination, special drainage structures, minor utility relocations, turf/erosion control, and basic landscaping. These allowance percentages are also based on historical data. The paving and major construction component allowance subtotal is given a ten percent (10%) contingency to determine the construction cost total. To determine the total Impact Fee Project Cost, a percentage of the construction cost total is added for engineering, surveying, testing, and mobilization. ROW acquisition costs are included in the cost on a percentage basis.

The construction costs are variable based on the proposed Master Thoroughfare Plan classification of the roadway.

Tables 2.6 and **2.7** list the CIP projects for the City of Rowlett with conceptual level project cost projections. Detailed cost projections and the methodology used for each individual project can be seen in **Appendix A**, Conceptual Level Project Cost Projections. It should be noted that these tables reflect only conceptual-level opinions or assumptions regarding the portions of future project costs that are potentially recoverable through impact fees. Actual costs of construction are likely to change with time and are dependent on market and economic conditions that cannot be precisely predicted at this time.

This CIP establishes the list of projects for which impact fees may be utilized. Essentially, it establishes a list of projects for which an impact fee funding program can be established. This is different from a City's construction CIP, which provides a broad list of capital projects for which the City is committed to building. The cost projections utilized in this study should not be utilized for the City's building program or construction CIP. Included in the Roadway Impact Fee CIP was the cost of the 2013 Roadway Impact Fee Study which was $22,500 per Service Area.

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Table 2.6

10-Year Roadway Impact Fee CIP with Conceptual Level Cost Projections - Service Area 1

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Total Project Cost	Cost in Service Area
SA 1	1-A	B	Castle Dr.	Miles Rd. to Merritt Rd.	0.51	100%	$ 2,185,000	$ 2,185,000
	1-B	B, B+	Hickox Rd. (1)	Rowlett Rd. to 235' NE. of Toler Rd.	0.59	100%	$ 2,737,012	$ 2,737,012
	1-C	B+	Hickox Rd. (2)	235' NE. of Toler Rd. to Merritt Rd.	0.76	100%	$ 3,531,000	$ 3,531,000
	1-D	B	Merritt Rd.	N. City Limit to 860' SE. of Future Liberty Grove-Merritt Connector	1.52	100%	$ 2,926,087	$ 2,926,087
	1-E	A	berty Grove-Merritt Connector	PGBT NBFR to 805' E. of PGBT NBFR	0.15	100%	$ 1,204,000	$ 1,204,000
	1-F	B	berty Grove-Merritt Connector	805' E. of PGBT NBFR to Liberty Grove Rd.	0.49	100%	$ 3,106,000	$ 3,106,000
	1-G	B	Liberty Grove Rd. (1)	Rosebud Dr. to PGBT SBFR	0.67	100%	$ 2,908,000	$ 2,908,000
	1-H	B	Liberty Grove Rd. (2)	PGBT NBFR to Merritt Rd.	0.16	100%	$ 671,000	$ 671,000
	1-I	B	Liberty Grove Rd. (3)	Merritt Rd. to Chiesa Rd.	0.95	100%	$ 4,852,000	$ 4,852,000
	1-J	B	Liberty Grove Rd. (4)	Chiesa Rd. to Princeton Rd.	0.28	100%	$ 365,293	$ 365,293
	1-K	B	Liberty Grove Rd. (5)	Broadmoor Ln. to Elm Grove Rd.	0.84	100%	$ 3,867,000	$ 3,867,000
	1-L	B	Elm Grove Rd.	N. City Limit to Liberty Grove Rd.	1.08	100%	$ 4,655,000	$ 4,655,000
	1-M	B+	Dalrock Rd. (1)	Liberty Grove Rd. to 770' SE. of Lake North Rd.	0.46	100%	$ 2,505,000	$ 2,505,000
	1-N	B+	Dalrock Rd. (2)	105' NE. of Pecan Ln. to Princeton Rd.	1.45	100%	$ 7,131,000	$ 7,131,000
	1-O	A (1/3)	Dalrock Rd. (3)	Princeton Rd. to Lakeview Pkwy.	0.36	100%	$ 954,000	$ 954,000
	1-P	C	Princeton Rd.	Existing Princeton Rd. to Liberty Grove Rd.	0.19	100%	$ 675,000	$ 675,000
	1-Q	B	Chiesa Rd. (1)	Liberty Grove Rd. to Danridge Rd.	1.40	100%	$ 6,044,000	$ 6,044,000
	1-R	C	Danridge Rd.	Maplewood Dr. to Traveler's Crossing	0.25	100%	$ 902,000	$ 902,000
	1-S	C	Freedom Ln.	Big A. Rd. to Lakeview Pkwy.	0.15	100%	$ 533,000	$ 533,000
	1-T, 2-L	A+ (1/3)	Lakeview Pkwy.	Dalrock Rd. to E. City Limit	0.80	50%	$ 2,108,000	$ 1,054,000
	1-U	HL-C3	HL Collector #1	HL Collector #1	0.22	100%	$ 830,000	$ 830,000
	1-V	HL-C2	HL Collector #2	HL Collector #2	0.22	100%	$ 947,000	$ 947,000
	1	0	0	Dalrock Rd. at Lakeview Pkwy.	0.00	50%	$ 1,250,000	$ 625,000
	2	0	0	Liberty Grove Rd. at Chiesa Rd.	0.00	100%	$ 250,000	$ 250,000
	3	0	0	Princeton Rd. at Liberty Grove Rd.	0.00	100%	$ 250,000	$ 250,000
	4	0	0	Merritt Rd. at Hickox Rd.	0.00	100%	$ 250,000	$ 250,000
	5	0	0	Merritt Rd. at Castle Dr.	0.00	100%	$ 250,000	$ 250,000
	6	0	0	Merritt Rd. at Liberty Grove Rd.	0.00	100%	$ 450,000	$ 450,000
	7	0	0	Merritt Rd. at PGBT	0.00	100%	$ 250,000	$ 250,000
							Service Area Project Cost Subtotal	**$ 56,907,392**
							2013 Roadway Impact Fee Update Cost Per Service Area	**$ 22,500**
							Total Cost in SERVICE AREA 1	**$ 56,929,892**

Notes:

a. The planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Rowlett.

b. The planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

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Table 2.7
10-Year Roadway Impact Fee CIP with Conceptual Level Cost Projections - Service Area 2

Service Area	Proj. #	Class	Roadway	Limits	Length (mi)	% In Service Area	Total Project Cost	Cost in Service Area
SA 2	2-A	B	Main St.	Lakeview Pkwy. to 310' W. of Rowlett Rd.	0.58	100%	$ 5,181,000	$ 5,181,000
	2-B	B	Future Main-Century Connectio	Main St. to Century Dr.	0.11	100%	$ 942,000	$ 942,000
	2-C	A (1/3)	Miller Rd. (1)	Dexham Rd. to Rowlett Rd.	1.02	100%	$ 5,128,000	$ 5,128,000
	2-D	A (1/3)	Miller Rd. (2)	Rowlett Rd. to PGBT SBFR	0.77	100%	$ 2,433,000	$ 2,433,000
	2-E	A (1/3)	Miller Rd. (3)	PGBT NBFR to 360' E. of PGBT NBFR	0.07	100%	$ 181,000	$ 181,000
	2-F	A	Miller Rd. (4)	360' E. of PGBT NBFR to Lake Ray Hubbard Bridge	0.33	100%	$ 1,540,000	$ 1,540,000
	2-G	A	Miller Rd. (5)	Lake Ray Hubbard Bridge to 372' W. of Dalrock Rd.	1.02	100%	$ 5,115,000	$ 5,115,000
	2-H	B+	Chiesa Rd. (2)	360' S. of Lakeview Pkwy. to Miller Rd.	1.25	100%	$ 6,194,000	$ 6,194,000
	2-I	B+	Chiesa Rd. (3)	Miller Rd. to Dalrock Rd.	1.21	100%	$ 5,878,000	$ 5,878,000
	2-J	A (1/3)	Dalrock Rd. (4)	Lakeview Pkwy. to Miller Rd.	1.79	100%	$ 4,707,000	$ 4,707,000
	2-K	A (1/3)	Dalrock Rd. (5)	Miller Rd. to S. City Limits	0.83	100%	$ 2,196,000	$ 2,196,000
	1-T, 2-L	A+ (1/3)	Lakeview Pkwy.	Dalrock Rd. to E. City Limit	0.80	50%	$ 2,108,000	$ 1,054,000
	2-M	D-C	Melcer Dr.	Melcer Dr. Extension	0.20	100%	$ 741,000	$ 741,000
	2-N	D-C	Martin Dr. (1)	Coyle St. to South End	0.17	100%	$ 644,000	$ 644,000
	2-O	C	Martin Dr. (2)	Melcer Dr. to Coyle St.	0.11	100%	$ 822,727	$ 822,727
	2-P	A (1/3)	Rowlett Rd.	Century Dr. to Kyle Rd.	0.31	100%	$ 3,792,336	$ 3,792,336
	2-Q	SG-C5	SG Collector #1	SG Collector #1	0.28	100%	$ 1,184,000	$ 1,184,000
	2-R	SG-C5	SG Collector #2	SG Collector #2	0.07	100%	$ 310,000	$ 310,000
	2-S	SG-C5	SG Collector #3	SG Collector #3	0.16	100%	$ 698,000	$ 698,000
	2-T	SG-C4	SG Collector #4	SG Collector #4	0.17	100%	$ 633,000	$ 633,000
	2-U	SG-A+	SG Major Thoroughfare	SG Major Thoroughfare	0.09	100%	$ 450,000	$ 450,000
	2-V	HL-C1	HL Collector #3	HL Collector #3	0.13	100%	$ 590,000	$ 590,000
	1		Intersection Improvement	Dalrock Rd. at Lakeview Pkwy.		50%	$ 1,250,000	$ 625,000
	2		Intersection Improvement	Dalrock Rd. at Chiesa Rd.		100%	$ 750,000	$ 750,000
	3		Signal Installation	Dexham Rd. at Miller Rd.		100%	$ 250,000	$ 250,000
							Service Area Project Cost Subtotal	**$ 52,039,063**
							2013 Roadway Impact Fee Update Cost Per Service Area	**$ 22,500**
							Total Cost in SERVICE AREA 2	**$ 52,061,563**

Notes:

a. The planning level cost projections have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Rowlett.
b. The planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

E. SERVICE UNIT CALCULATION

The basic service unit for the computation of the City of Rowlett's roadway impact fees is the vehicle-mile of travel during the afternoon peak hour. To determine the cost per service unit, it is necessary to project the growth in vehicle-miles of travel for the service area for the ten-year study period.

The growth in vehicle-miles from 2013 to 2023 is based upon projected changes in residential and non-residential growth for the period. In order to determine this growth, baseline estimates of population, basic square feet, service square feet, and retail square feet for 2013 were made along with projections for each of these demographic statistics through 2023. The *Land Use Assumptions* (see **Table 2.1**) details the growth estimates used for the impact fee determination.

The residential and non-residential statistics in the *Land Use Assumptions* provide the "independent variables" that are used to calculate the existing (2013) and projected (2023) transportation service units used to establish the roadway impact fee maximum rates within each service area. The roadway demand service units (vehicle-miles) for each service area are the sum of the vehicle-miles "generated" by each category of land use in the service area.

For the purpose of impact fees, all developed and developable land is categorized as either residential or non-residential. For residential land uses, the existing and projected population is converted to dwelling units. The number of dwelling units in each service area is multiplied by a *transportation demand factor* to compute the vehicle-miles of travel that occur during the afternoon peak hour. This factor computes the average amount of demand caused by the residential land uses in the service area. The *transportation demand factor* is discussed in more detail below.

For non-residential land uses, the process is similar. The *Land Use Assumptions* provide the existing and projected amount of building square footages for three (3) categories of non-residential land uses – basic, service, and retail. These categories correspond to an aggregation of other specific land use categories based on the North American Industrial Classification System (NAICS).

Building square footage is the most common independent variable for the estimation of non-residential trips in the *Institute of Transportation Engineers' (ITE), Trip Generation Manual, 9th Edition*. This independent variable is more appropriate than the number of employees because building square footage is tied more closely to trip generation and is known at the time of application for any development or development modification that would require the assessment of an impact fee.

The existing and projected land use assumptions for the dwelling units and the square footage of basic, service, and retail land uses provide the basis for the projected increase in vehicle-miles of travel. As noted earlier, a *transportation demand factor* is applied to these values and then summed to calculate the total peak-hour vehicle-miles of demand for each service area.

The *transportation demand factors* are aggregate rates derived from two sources – the *ITE, Trip Generation Manual, 9th Edition,* and the regional Origin-Destination Travel Survey performed by the NCTCOG and the National Household Travel Survey (NHTS). The *ITE, Trip Generation Manual, 9th Edition,* provides the number of trips that are produced or attracted to the land use for each dwelling unit, square foot of building, or other corresponding unit. For the retail category of land uses, the rate is adjusted to account for the fact that a percentage of retail trips are made by people who would otherwise be traveling past that particular establishment anyway, such as a trip between work and home. These trips are called pass-by trips, and since the travel demand is accounted for in the land use calculations relative to the primary trip, it is necessary to discount the retail rate to avoid double counting trips.

The next component of the *transportation demand factor* accounts for the length of each trip. The average trip length for each category is based on the region-wide travel characteristics survey conducted by the NCTCOG and the NHTS.

The computation of the *transportation demand factor* is detailed in the following equation:

$$TDF = T * (1 - P_b) * L_{max}$$

$$\text{where...} \; L_{max} = \min(L * OD \text{ or } SA_L)$$

Variables:

TDF = Transportation Demand Factor;
T = Trip Rate (peak hour trips / unit);
P_b = Pass-By Discount (% of trips);
L_{max} = Maximum Trip Length (miles);
L = Average Trip Length (miles);
OD = Origin-Destination Reduction (50%); and
SA_L = Max Service Area Trip Length (see **Table 2.8**).

For land uses which are characterized by longer average trip lengths (primarily residential uses), the maximum trip length has been limited to four (4) miles based on the maximum trip length within each service area. Chapter 395 of the Texas Local Government Code allows for a service area of six (6) miles; however the service area within the City of Rowlett is approximated to be a five (5) mile distance.

The adjustment made to the average trip length (L) statistic in the computation of the maximum trip length (L_{max}) is the origin-destination reduction (OD). This adjustment is made because the roadway impact fee is charged to both the origin and destination end of the trip. For example, the impact fee methodology will account for a trip from home to work within the City of Rowlett to both residential and non-residential land uses. To avoid counting these trips as both residential and non-residential trips, a 50% origin-destination (OD) reduction factor is applied. Therefore, only half of the trip length is assessed to each land use.

Table 2.9 shows the derivation of the *Transportation Demand Factor* for the residential land uses and the three (3) non-residential land uses. The values utilized for all variables shown in the *Transportation Demand Factor* equation are also shown in the table.

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Table 2.8 Transportation Demand Factor Calculations

Variable	Residential	Basic (General Light Industrial)	Service (General Office)	Retail (Shopping Center)
T	1.00	0.97	1.49	3.71
P_b	0%	0%	0%	34%
T (with P_b)	1.00	0.97	1.49	2.45
L (miles)	17.21	10.02	10.92	6.43
SA_L	5.00	5.00	5.00	5.00
L_{max} * (miles)	5.00	5.00	5.00	3.22
TDF	**5.00**	**4.85**	**7.45**	**7.89**

* L_{max} is less than 4 miles for retail land uses; therefore this lower trip length is used for calculating the TDF for retail land uses

The application of the demographic projections and the *transportation demand factors* are presented in the 10-Year Growth Projections in **Table 2.9**. This table shows the total vehicle-miles by service area for the years 2013-2023. These estimates and projections lead to the Vehicle Miles of Travel for 2013-2023.

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Table 2.9 10-Year Growth Projections

2013 - 2023 Growth Projections[1]

SERVICE AREA	RESIDENTIAL VEHICLE-MILES			SQUARE FEET[4]			TRANS. DEMAND FACTOR[5]			NON-RESIDENTIAL VEHICLE-MILES[9]				TOTAL VEHICLE MILES[10]
	DWELLING UNITS	Trip Rate TDF[2]	VEHICLE MILES[3]	BASIC	SERVICE	RETAIL	BASIC[6]	SERVICE[7]	RETAIL[8]	BASIC	SERVICE	RETAIL	TOTAL	
		1.00					*0.97*	*1.49*	*3.71*					
1	1,013	5.00	5,064	422,500	270,000	474,300	4.85	7.45	7.89	2,049	2,012	3,742	7,803	12,867
2	253		1,266	227,500	180,000	455,700				1,103	1,341	3,595	6,039	7,305
Totals	**1,266**		**6,330**	**650,000**	**450,000**	**930,000**				**3,152**	**3,353**	**7,337**	**13,842**	**20,172**

VEHICLE-MILES OF INCREASE (2013 - 2023)

SERVICE AREA	VEH-MILES
1	12,867
2	7,305

Notes:

[1] From *City of Rowlett 2013 Land Use Assumptions for Water, Wastewater, and Roadway Impact Fees*

[2] Transportation Demand Factor for each Service Area (from LUVMET) using Single Family Detached Housing land use and *trip generation rate*

[3] Calculated by multiplying TDF by the number of dwelling units

[4] From *City of Rowlett 2013 Land Use Assumptions for Water, Wastewater, and Roadway Impact Fees*

[5] *Trip generation rate* and Transportation Demand Factors from LUVMET for each land use

[6] 'Basic' corresponds to General Light Industrial land use and *trip generation rate*

[7] 'Service' corresponds to General Office land use and *trip generation rate*

[8] 'Retail' corresponds to Shopping Center land use and *trip generation rate*

[9] Calculated by multiplying Transportation Demand Factor by the number of thousand square feet for each land use

[10] Residential plus non-residential vehicle-mile totals for each Service Area

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EXHIBIT A

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2.4 IMPACT FEE CALCULATION

A. MAXIMUM ASSESSABLE ROADWAY IMPACT FEE PER SERVICE UNIT

This section presents the maximum assessable roadway impact fee rate calculated for each service area. The maximum assessable roadway impact fee is the sum of the eligible Impact Fee CIP costs for the service area divided by the growth in travel attributable to new development projected to occur within the 10-year period. A majority of the components of this calculation have been described and presented in previous sections of this report. The purpose of this section is to document the computation for each service area and to demonstrate that the guidelines provided by Chapter 395 of the Texas Local Government Code have been addressed. **Table 2.10** illustrates the computation of the maximum assessable impact fee computed for each service area. Each row in the table is numbered to simplify explanation of the calculation.

Line	Title	Description
1	*Total Vehicle-Miles of Capacity Added by the CIP*	The total number of vehicle-miles added to the service area based on the capacity, length, and number of lanes in each project. (from **Appendix B** – CIP Service Units of Supply)

Each project identified in the Roadway Impact Fee CIP will add a certain amount of capacity to the City's roadway network based on its length and classification. This line displays the total amount added within the service area.

2	*Total Vehicle-Miles of Existing Demand*	A measure of the amount of traffic currently using the roadway facilities upon which capacity is being added. (from **Appendix B** – CIP Service Units of Supply)

A number of facilities identified in the Roadway Impact Fee CIP have traffic currently utilizing a portion of their existing capacity. This line displays the total amount of capacity along these facilities currently being used by existing traffic.

3	*Total Vehicle-Miles of Existing Deficiencies*	Number of vehicle-miles of travel that are not accommodated by the existing roadway system. (from **Appendix C** – Existing Roadway Facilities Inventory)

In order to ensure that existing deficiencies on the City's roadway network are not recoverable through impact fees, this line is based on the entire roadway network within the service area. Any roadway within the service area that is deficient – even those not identified on the Roadway Impact Fee CIP – will have these additional trips removed from the calculation.

4	*Net Amount of Vehicle-Miles of Capacity Added*	A measurement of the amount of vehicle-miles added by the CIP that will not be utilized by existing demand. **(Line 1 – Line 2 – Line 3)**

5	*Total Cost of the CIP within the Service Area*	The total cost of the projects within the service area (from **Table 2.6/Table 2.7** - 10-Year Roadway Capital Improvement Plan with Conceptual Level Cost Projections)

This line simply identifies the total cost of all of the projects identified in the service area.

6	*Cost of Net Capacity Supplied*	The total CIP cost (**Line 5**) prorated by the ratio of Net Capacity Added (**Line 4**) to Total Capacity Added (**Line 1**). **[(Line 4 / Line 1) * (Line 5)]**

Using the ratio of vehicle-miles added by the Roadway Impact Fee CIP available to serve future growth to the total vehicle-miles added, the total cost of the Impact Fee CIP is reduced to the amount available for future growth (i.e., excluding existing usage and deficiencies).

7	*Cost to Meet Existing Needs and Usage*	The difference between the Total Cost of the CIP (**Line 5**) and the Cost of the Net Capacity supplied (**Line 6**). **(Line 5 – Line 6)**

This line is provided for information purposes only – it is to present the portion of the total cost of the Roadway Impact Fee CIP that is required to meet existing demand.

8	*Total Vehicle-Miles of New Demand over Ten Years*	Based upon the growth projection provided in the *Land Use Assumptions* (**see Section 2.3.A**), an estimate of the number of new vehicle-miles within the service area over the next ten years. (from **Table 2.9**)

This line presents the amount of growth (in vehicle-miles) projected to occur within each service area over the next ten years.

9	*Percent of Capacity Added Attributable to New Growth*	The result of dividing Total Vehicle-Miles of New Demand (**Line 8**) by the Net Amount of Capacity Added (**Line 4**), limited to 100% (**Line 10**). This calculation is required by Chapter 395 to ensure capacity added is attributable to new growth.
10	*Chapter 395 Check*	

In order to ensure that the vehicle-miles added by the Roadway Impact Fee CIP do not exceed the amount needed to accommodate growth beyond the ten-year window, a comparison of the two values is performed. If the amount of vehicle-miles added by the Roadway Impact Fee CIP exceeds the growth projected to occur in the next ten years, the Roadway Impact Fee CIP cost is reduced accordingly.

11	*Cost of Capacity Added Attributable to New Growth*	The result of multiplying the Cost of Net Capacity Added (**Line 6**) by the Percent of Capacity Added Attributable to New Growth, limited to 100% (**Line 10**).

The value of the total Roadway Impact Fee CIP project costs (excluding financial costs) that may be recovered through impact fees. This line is determined considering the limitations to impact fees required by the Texas legislature.

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B. Plan For Awarding the Roadway Impact Fee Credit

Chapter 395 of the Texas Local Government Code requires the Capital Improvement Plan for Roadway Impact Fees to contain specific enumeration of a plan for awarding the impact fee credit. Section 395.014 of the Code states:

> "(7) A plan for awarding:
> (A) a credit for the portion of ad valorem tax and utility service revenues generated by new service units during the program period that is used for the payment of improvements, including the payment of debt, that are included in the capital improvements plan; or
> (B) In the alternative, a credit equal to 50 percent of the total projected cost of implementing the Roadway Impact Fee Capital Improvement Program..."

The following table summarizes the portions of Table 2.10 that utilize this credit calculation, based on awarding a 50 percent credit.

Line	Title	Description
12	*Credit*	A credit equal to 50% of the total projected cost, as per section 395.014 of the Texas Local Government Code.
13	*Maximum Assessable Fee Per Service Unit*	Found by dividing the Recoverable Cost of the CIP attributable to growth **(Line 12)** by the Total Vehicle-Miles of New Demand Over Ten Years **(Line 8)**. **(Line 12 / Line 8)**

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Table 2.10 Maximum Assessable Roadway Impact Fee

	SERVICE AREA:	1 (North)	2 (South)
1	TOTAL VEH-MI OF CAPACITY ADDED BY THE CIP (FROM ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY, **APPENDIX B)**	33,268	37,269
2	TOTAL VEH-MI OF EXISTING DEMAND (FROM ROADWAY IMPACT FEE CIP SERVICE UNITS OF SUPPLY, **APPENDIX B)**	8,279	14,387
3	TOTAL VEH-MI OF EXISTING DEFICIENCIES (FROM EXISTING ROADWAY FACILITIES INVENTORY, **APPENDIX C)**	822	1,149
4	NET AMOUNT OF VEH-MI OF CAPACITY ADDED (LINE 1 - LINE 2 - LINE 3)	24,167	21,733
5	TOTAL COST OF THE CIP WITHIN SERVICE AREA (FROM **TABLES 4A and 4B)**	$ 56,929,892	$ 52,061,563
6	COST OF NET CAPACITY SUPPLIED (LINE 4 / LINE 1) * (LINE 5)	$ 41,355,798	$ 30,359,117
7	COST TO MEET EXISTING NEEDS AND USAGE (LINE 5 - LINE 6)	$ 15,574,094	$ 21,702,446
8	TOTAL VEH-MI OF NEW DEMAND OVER TEN YEARS (FROM **TABLE 6** and **Land Use Assumptions**)	12,867	7,305
9	PERCENT OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 8 / LINE 4)	53.2%	33.6%
10	IF LINE 8 > LINE 4, REDUCE LINE 9 TO 100%, OTHERWISE NO CHANGE	53.2%	33.6%
11	COST OF CAPACITY ADDED ATTRIBUTABLE TO GROWTH (LINE 6 * LINE 10)	$ 22,001,285	$ 10,200,663
12	CREDIT (50% OF LINE 11)	$ 11,000,643	$ 5,100,332
13	MAX ASSESSABLE FEE PER SERVICE UNIT ($ PER VEH-MI) (LINE 12 / LINE 8)	$ 855	$ 698

C. Service Unit Demand Per Unit of Development

The roadway impact fee is determined by multiplying the impact fee rate by the number of service units projected for the proposed development. For this purpose, the City utilizes the Land Use/Vehicle-Mile Equivalency Table (LUVMET), presented in **Table 2.11**. This table lists the predominant land uses that may occur within the City of Rowlett. For each land use, the development unit that defines the development's magnitude with respect to transportation demand is shown. Although every possible use cannot be anticipated, the majority of uses are found in this table. If the exact use is not listed, one similar in trip-making characteristics can serve as a reasonable proxy. The individual land uses are grouped into categories, such as residential, office, commercial, industrial, and institutional.

The trip rates presented for each land use is a fundamental component of the LUVMET. The trip rate is the average number of trips generated during the afternoon peak hour by each land use per development unit. The next column, if applicable to the land use, presents the number of trips to and from certain land uses reduced by pass-by trips, as previously discussed.

The source of the trip generation and pass-by statistics is the *ITE Trip Generation Manual, 9th Edition*, the latest edition for trip generation data. This manual utilizes trip generation studies for a variety of land uses throughout the United States, and is the standard used by traffic engineers and transportation planners for traffic impact analysis, site design, and transportation planning.

To convert vehicle trips to vehicle-miles, it is necessary to multiply trips by trip length. The adjusted trip length values are based on the *Regional Origin-Destination Travel Survey* performed by the NCTCOG and the NHTS. The other adjustment to trip length is the 50% origin-destination reduction to avoid double counting of trips. At this stage, another important aspect of the state law is applied – the limit on transportation service unit demand. If the adjusted trip length is above the maximum trip length allowed within the service area, the maximum trip length used for calculation is reduced to the corresponding value. This reduction, as discussed previously, limits the maximum trip length to the approximate size of the service areas.

The remaining column in the LUVMET shows the vehicle-miles per development unit. This number is the product of the trip rate and the maximum trip length. This number, previously referred to as the *Transportation Demand Factor*, is used in the impact fee estimate to compute the number of service units consumed by each land use application. The number of service units is multiplied by the impact fee rate (established by City ordinance) in order to determine the impact fee for a development.

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Table 2.11 Land Use / Vehicle-Mile Equivalency Table (LUVMET)

Land Use Category	ITE Land Use Code	Development Unit	Trip Gen Rate (PM)	Pass-by Rate	Pass-by Source	Trip Rate	NCTCOG Trip Length (mi)	Adj. For O-D	Adj. Trip Length (mi)	Max Trip Length (mi)	Veh-Mi Per Dev. Unit
PORT AND TERMINAL											
Truck Terminal	030	Acre	6.55			6.55	10.02	50%	5.01	5.00	32.75
INDUSTRIAL											
General Light Industrial	110	1,000 SF GFA	0.97			0.97	10.02	50%	5.01	5.00	4.85
General Heavy Industrial	120	1,000 SF GFA	0.68			0.68	10.02	50%	5.01	5.00	3.40
Industrial Park	130	1,000 SF GFA	0.86			0.86	10.02	50%	5.01	5.00	4.30
Warehousing	150	1,000 SF GFA	0.32			0.32	10.83	50%	5.42	5.00	1.60
Mini-Warehouse	151	1,000 SF GFA	0.26			0.26	10.83	50%	5.42	5.00	1.30
RESIDENTIAL											
Single-Family Detached Housing	210	Dwelling Unit	1.00			1.00	17.21	50%	8.61	5.00	5.00
Apartment/Multi-family	220	Dwelling Unit	0.62			0.62	17.21	50%	8.61	5.00	3.10
Residential Condominium/Townhome	230	Dwelling Unit	0.52			0.52	17.21	50%	8.61	5.00	2.60
Senior Adult Housing-Detached	251	Dwelling Unit	0.27			0.27	17.21	50%	8.61	5.00	1.35
Senior Adult Housing-Attached	252	Dwelling Unit	0.16			0.16	17.21	50%	8.61	5.00	0.80
Assisted Living	254	Beds	0.22			0.22	17.21	50%	8.61	5.00	1.10
LODGING											
Hotel	310	Room	0.59			0.59	6.43	50%	3.22	3.22	1.90
Motel / Other Lodging Facilities	320	Room	0.47			0.47	6.43	50%	3.22	3.22	1.51
RECREATIONAL											
Golf Driving Range	432	Tee	1.25			1.25	6.43	50%	3.22	3.22	4.03
Golf Course	430	Acre	0.30			0.30	6.43	50%	3.22	3.22	0.97
Recreational Community Center	495	1,000 SF GFA	1.45			1.45	6.43	50%	3.22	3.22	4.67
Ice Skating Rink	465	1,000 SF GFA	2.36			2.36	6.43	50%	3.22	3.22	7.60
Miniature Golf Course	431	Hole	0.33			0.33	6.43	50%	3.22	3.22	1.06
Multiplex Movie Theater	445	Screens	13.64			13.64	6.43	50%	3.22	3.22	43.92
Racquet / Tennis Club	491	Court	3.35			3.35	6.43	50%	3.22	3.22	10.79
INSTITUTIONAL									0.00		
Church	560	1,000 SF GFA	0.55			0.55	4.20	50%	2.10	2.10	1.16
Day Care Center	565	1,000 SF GFA	12.46	44%	B	6.98	4.20	50%	2.10	2.10	14.66
Primary/Middle School (1-8)	522	Students	0.16			0.16	4.20	50%	2.10	2.10	0.34
High School	530	Students	0.13			0.13	4.20	50%	2.10	2.10	0.27
Junior / Community College	540	Students	0.12			0.12	4.20	50%	2.10	2.10	0.25
University / College	550	Students	0.21			0.21	4.20	50%	2.10	2.10	0.44
MEDICAL											
Clinic	630	1,000 SF GFA	5.18			5.18	7.55	50%	3.78	3.78	19.58
Hospital	610	Beds	1.31			1.31	7.55	50%	3.78	3.78	4.95
Nursing Home	620	Beds	0.22			0.22	7.55	50%	3.78	3.78	0.83
Animal Hospital/Veterinary Clinic	640	1,000 SF GFA	4.72	30%	B	3.30	7.55	50%	3.78	3.78	12.47
OFFICE											
Corporate Headquarters Building	714	1,000 SF GFA	1.40			1.40	10.92	50%	5.46	5.00	7.00
General Office Building	710	1,000 SF GFA	1.49			1.49	10.92	50%	5.46	5.00	7.45
Medical-Dental Office Building	720	1,000 SF GFA	3.46			3.46	10.92	50%	5.46	5.00	17.30
Single Tenant Office Building	715	1,000 SF GFA	1.73			1.73	10.92	50%	5.46	5.00	8.65
Office Park	750	1,000 SF GFA	1.48			1.48	10.92	50%	5.46	5.00	7.40
COMMERCIAL											
Automobile Related											
Automobile Care Center	942	1,000 SF Occ. GLA	3.38	40%	B	2.03	6.43	50%	3.22	3.22	6.54
Automobile Parts Sales	843	1,000 SF GFA	5.98	43%	A	3.41	6.43	50%	3.22	3.22	10.98
Gasoline/Service Station	944	Vehicle Fueling Position	13.87	42%	A	8.04	1.20	50%	0.60	0.60	4.82
Gasoline/Service Station w/ Conv Market	945	Vehicle Fueling Position	13.38	56%	B	5.89	1.20	50%	0.60	0.60	3.53
Gasoline/Service Station w/ Conv Market and Car Wash	946	Vehicle Fueling Position	13.94	56%	A	6.13	1.20	50%	0.60	0.60	3.68
New Car Sales	841	1,000 SF GFA	2.59	20%	B	2.07	6.43	50%	3.22	3.22	6.67
Quick Lubrication Vehicle Shop	941	Servicing Positions	5.19	40%	B	3.11	6.43	50%	3.22	3.22	10.01
Self-Service Car Wash	947	Stall	5.54	40%	B	3.32	1.20	50%	0.60	0.60	1.99
Tire Store	848	1,000 SF GFA	4.15	28%	A	2.99	6.43	50%	3.22	3.22	9.63
Dining											
Fast Food Restaurant with Drive-Thru Window	934	1,000 SF GFA	33.84	50%	A	16.92	4.79	50%	2.40	2.40	40.61
Fast Food Restaurant without Drive-Thru Window	933	1,000 SF GFA	26.15	50%	B	13.08	4.79	50%	2.40	2.40	31.39
High Turnover (Sit-Down) Restaurant	932	1,000 SF GFA	11.15	43%	A	6.36	4.79	50%	2.40	2.40	15.26
Quality Restaurant	931	1,000 SF GFA	7.49	44%	A	4.19	4.79	50%	2.40	2.40	10.06
Coffee/Donut Shop with Drive-Thru Window	937	1,000 SF GFA	42.93	70%	A	12.88	4.79	50%	2.40	2.40	30.91
Other Retail											
Free-Standing Discount Store	815	1,000 SF GFA	5.00	30%	C	3.50	6.43	50%	3.22	3.22	11.27
Nursery (Garden Center)	817	1,000 SF GFA	3.80	30%	B	2.66	6.43	50%	3.22	3.22	8.57
Home Improvement Superstore	862	1,000 SF GFA	2.37	48%	A	1.23	6.43	50%	3.22	3.22	3.96
Pharmacy/Drugstore w/o Drive-Thru Window	880	1,000 SF GFA	8.42	53%	A	3.96	6.43	50%	3.22	3.22	12.75
Pharmacy/Drugstore w/ Drive-Thru Window	881	1,000 SF GFA	10.35	49%	A	5.28	6.43	50%	3.22	3.22	17.00
Shopping Center	820	1,000 SF GLA	3.71	34%	A	2.45	6.43	50%	3.22	3.22	7.89
Supermarket	850	1,000 SF GFA	10.50	36%	A	6.72	6.43	50%	3.22	3.22	21.64
Toy/Children's Superstore	864	1,000 SF GFA	4.99	30%	B	3.49	6.43	50%	3.22	3.22	11.24
Department Store	875	1,000 SF GFA	1.78	30%	B	1.25	6.43	50%	3.22	3.22	4.03
Video Rental Store	896	1,000 SF GFA	13.60	50%	B	6.80	6.43	50%	3.22	3.22	21.90
SERVICES											
Walk-In Bank	911	1,000 SF GFA	12.13	40%	B	7.28	3.39	50%	1.70	1.70	12.38
Drive-In Bank	912	Drive-in Lanes	27.41	47%	A	14.53	3.39	50%	1.70	1.70	24.70
Hair Salon	918	1,000 SF GLA	1.45	30%	B	1.02	3.39	50%	1.70	1.70	1.73

Key to Sources of Pass-by Rates:

A: ITE Trip Generation Handbook 2nd Edition (June 2004)

B: Estimated by Kimley-Horn based on ITE rates for similar categories

C: ITE rate adjusted upward by KHA based on logical relationship to other categories

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2.5 SAMPLE CALCULATIONS

The following section details two (2) examples of maximum assessable roadway impact fee calculations.

Example 1:

- **Development Type - One (1) Unit of Single-Family Housing**

Roadway Impact Fee Calculation Steps – Example 1	
Step 1	*From Table 2.11 [Land Use – Vehicle Mile Equivalency Table]* Development Type: 1 Dwelling Unit of Single-Family Detached Housing Number of Development Units: 1 Dwelling Unit Veh-Mi Per Development Unit: 5.00
Step 2	*From Table 2.10, Line 13 [Maximum Assessable Fee Per Service Unit]* Maximum Fee for City of Rowlett (Service Area 1): $855 / vehicle-mile
Step 3	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 1 * 5.00 * $855 Maximum Assessable Impact Fee = $4,275

Example 2:

- **Development Type – 125,000 square foot Home Improvement Superstore**

Roadway Impact Fee Calculation Steps – Example 2	
Step 1	*From Table 2.11 [Land Use – Vehicle Mile Equivalency Table]* Development Type: 125,000 square feet of Home Improvement Superstore Development Unit: 1,000 square feet of Gross Floor Area Veh-Mi Per Development Unit: 3.96
Step 2	*From Table 2.10, Line 18 [Maximum Assessable Fee Per Service Unit]* Maximum Fee for City of Rowlett (Service Area 2): $698 / vehicle-mile
Step 3	Impact Fee = # of Development Units * Veh-Mi Per Dev Unit * Max. Fee Per Service Unit Impact Fee = 125 * 3.96 * $698 Maximum Assessable Impact Fee = $345,510

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2.6 CONCLUSION

The City of Rowlett has established a process to implement the assessment and collection of roadway impact fees through the adoption of an impact fee ordinance that is consistent with Chapter 395 of the Texas Local Government Code.

This report establishes the maximum allowable roadway impact fee that could be assessed by the City of Rowlett. The maximum assessable roadway impact fee calculated in this report is **$855** for Service Area 1 and **$698** for Service Area 2 (from **Table 2.10**):

This document serves as a guide to the assessment of roadway impact fees pertaining to future development and the City's need for roadway improvements to accommodate that growth. Following the public hearing process, the City Council may establish an amount to be assessed (if any) up to the maximum established within this report and update the Roadway Impact Fee Ordinance accordingly.

In conclusion, it is our opinion that the data and methodology used in this update are appropriate and consistent with Chapter 395 of the Texas Local Government Code. Furthermore, the Land Use Assumptions and the proposed Capital Improvement Plan are appropriately incorporated into the process.

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Rowlett TEXAS

APPENDICES

A. CONCEPTUAL LEVEL PROJECT COST PROJECTIONS

B. CIP SERVICE UNITS OF SUPPLY

C. EXISTING ROADWAY FACILITIES INVENTORY

D. LAND USE ASSUMPTIONS

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Appendix A – Conceptual Level Project Cost Projections

EXHIBIT A

City of Rowlett - 2013 Roadway Impact Fee Study

Capital Improvement Plan for Roadway Impact Fees

Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area 1

#	Class	Project	Limits	Percent in Service Area	Project Cost	Total Cost in Service Area
1-A	B	Castle Dr.	Miles Rd. to Merritt Rd.	100%	$ 2,185,000	$ 2,185,000
1-B	B, B+	Hickox Rd. (1)	Rowlett Rd. to 235' NE. of Toler Rd.	100%	$ 2,737,012	$ 2,737,012
1-C	B+	Hickox Rd. (2)	235' NE. of Toler Rd. to Merritt Rd.	100%	$ 3,531,000	$ 3,531,000
1-D	B	Merritt Rd.	N. City Limit to 860' SE. of Future Liberty Grove-Merritt Connector	100%	$ 2,926,087	$ 2,926,087
1-E	A	Liberty Grove-Merritt Connector (1)	PGBT NBFR to 805' E. of PGBT NBFR	100%	$ 1,204,000	$ 1,204,000
1-F	B	Liberty Grove-Merritt Connector (2)	805' E. of PGBT NBFR to Liberty Grove Rd.	100%	$ 3,106,000	$ 3,106,000
1-G	B	Liberty Grove Rd. (1)	Rosebud Dr. to PGBT SBFR	100%	$ 2,908,000	$ 2,908,000
1-H	B	Liberty Grove Rd. (2)	PGBT NBFR to Merritt Rd.	100%	$ 671,000	$ 671,000
1-I	B	Liberty Grove Rd. (3)	Merritt Rd. to Chiesa Rd.	100%	$ 4,852,000	$ 4,852,000
1-J	B	Liberty Grove Rd. (4)	Chiesa Rd. to Princeton Rd.	100%	$ 365,293	$ 365,293
1-K	B	Liberty Grove Rd. (5)	Broadmoor Ln. to Elm Grove Rd.	100%	$ 3,867,000	$ 3,867,000
1-L	B	Elm Grove Rd.	N. City Limit to Liberty Grove Rd.	100%	$ 4,655,000	$ 4,655,000
1-M	B+	Dalrock Rd. (1)	Liberty Grove Rd. to 770' SE. of Lake North Rd.	100%	$ 2,505,000	$ 2,505,000
1-N	B+	Dalrock Rd. (2)	105' NE. of Pecan Ln. to Princeton Rd.	100%	$ 7,131,000	$ 7,131,000
1-O	A (1/3)	Dalrock Rd. (3)	Princeton Rd. to Lakeview Pkwy.	100%	$ 954,000	$ 954,000
1-P	C	Princeton Rd.	Existing Princeton Rd. to Liberty Grove Rd.	100%	$ 675,000	$ 675,000
1-Q	B	Chiesa Rd. (1)	Liberty Grove Rd. to Danridge Rd.	100%	$ 6,044,000	$ 6,044,000
1-R	C	Danridge Rd.	Maplewood Dr. to Traveler's Crossing	100%	$ 902,000	$ 902,000
1-S	C	Freedom Ln.	Big A. Rd. to Lakeview Pkwy.	100%	$ 533,000	$ 533,000
1-T, 2-L	A+ (1/3)	Lakeview Pkwy.	Dalrock Rd. to E. City Limit	50%	$ 2,108,000	$ 1,054,000
1-U	HL-C3	HL Collector #1	HL Collector #1	100%	$ 830,000	$ 830,000
1-V	HL-C2	HL Collector #2	HL Collector #2	100%	$ 947,000	$ 947,000
Intersection Improvements						
1		Intersection Improvement	Dalrock Rd. at Lakeview Pkwy.	50%	$ 1,250,000	$ 625,000
2		Signal Installation	Liberty Grove Rd. at Chiesa Rd.	100%	$ 250,000	$ 250,000
3		Signal Installation	Princeton Rd. at Liberty Grove Rd.	100%	$ 250,000	$ 250,000
4		Signal Installation	Merritt Rd. at Hickox Rd.	100%	$ 250,000	$ 250,000
5		Signal Installation	Merritt Rd. at Castle Dr.	100%	$ 250,000	$ 250,000
6		Signal Installation	Merritt Rd. at Liberty Grove Rd.	100%	$ 450,000	$ 450,000
7		Signal Installation	Merritt Rd. at PGBT	100%	$ 250,000	$ 250,000
			TOTAL		**$ 58,586,392**	**$ 56,907,392**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Rowlett. The planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-A
Name:	Castle Dr.	**This project consists of the reconstruction of Castle Dr. as a 4-lane undivided secondary thoroughfare.**	
Limits:	Miles Rd. to Merritt Rd.		
Impact Fee Type:	B		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	2,667		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
106	Unclassified Street Excavation	7,112	cy	$ 12.00	$ 85,344
206	6" Lime Stabilization (with Lime @ 27#/sy)	13,928	sy	$ 4.00	$ 55,711
306	8" Concrete Pavement w/ 6" Curb	13,335	sy	$ 46.00	$ 613,410
406	4" Topsoil	4,149	sy	$ 5.00	$ 20,743
506	4' Concrete Sidewalk	21,336	sf	$ 4.00	$ 85,344
606	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 860,552**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 51,633
√	Traffic Control	Construction Phase Traffic Control	5%	$ 43,028
√	Pavement Markings/Markers		3%	$ 25,817
√	Roadway Drainage	Standard Internal System	30%	$ 258,166
√	Illumination		6%	$ 51,633
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 51,633
√	Sewer	Minor Adjustments	4%	$ 34,422
√	Establish Turf / Erosion Control		3%	$ 25,817
√	Basic Landscaping		3%	$ 25,817
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 567,964**
			Paving and Allowance Subtotal:	**$ 1,428,516**
			Construction Contingency: 10%	$ 142,852
			Construction Cost TOTAL:	**$ 1,572,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,572,000**
Engineering/Survey/Testing:		18%	$ 282,960
Mobilization		6%	$ 94,320
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 235,800
		Impact Fee Project Cost TOTAL:	**$ 2,185,000**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Rowlett.

The planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-B
Name:	Hickox Rd. (1)	**This completed project consisted of the widening of Hickox Rd. to a four-lane divided secondary thoroughfare. This project includes a 1,225' undivided section. This project was built in 2008 with a City of Rowlett contribution of $2,737,012.**	
Limits:	Rowlett Rd. to 235' NE. of Toler Rd.		
Impact Fee Type:	B, B+		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	3,109		
Service Area(s):	1		

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
City Contribution to Construction Cost:		-	**$ 2,737,012**
Engineering/Survey/Testing			
Other			
ROW/Easement Acquisition:			
	Impact Fee Project Cost TOTAL:		**$ 2,737,012**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Rowlett.

The planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

City of Rowlett
2013 Roadway Impact Fee Study
Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.
updated: 9/25/2013

Project Information:		Description:	Project No. 1-C
Name:	Hickox Rd. (2)	**This project consists of the reconstruction of Hickox Rd. as a 4-lane divided secondary thoroughfare.**	
Limits:	235' NE. of Toler Rd. to Merritt Rd.		
Impact Fee Type:	B+		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	4,009		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	12,472	cy	$ 12.00	$ 149,669
205	6" Lime Stabilization (with Lime @ 27#/sy)	24,054	sy	$ 4.00	$ 96,216
305	8" Concrete Pavement w/ 6" Curb	22,272	sy	$ 38.00	$ 846,344
405	4" Topsoil	12,027	sy	$ 5.00	$ 60,135
505	4' Concrete Sidewalk	32,072	sf	$ 4.00	$ 128,288
605	Turn Lanes and Median Openings	2,898	sy	$ 38.00	$ 110,131
				Paving Construction Cost Subtotal:	**$ 1,390,783**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 83,447
√	Traffic Control	Construction Phase Traffic Control	5%	$ 69,539
√	Pavement Markings/Markers		3%	$ 41,724
√	Roadway Drainage	Standard Internal System	30%	$ 417,235
√	Illumination		6%	$ 83,447
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 83,447
√	Sewer	Minor Adjustments	4%	$ 55,631
√	Establish Turf / Erosion Control		3%	$ 41,724
√	Basic Landscaping		3%	$ 41,724
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 917,917**
			Paving and Allowance Subtotal:	**$ 2,308,700**
			Construction Contingency: 10%	$ 230,870
			Construction Cost TOTAL:	**$ 2,540,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,540,000**
Engineering/Survey/Testing:		18%	$ 457,200
Mobilization		6%	$ 152,400
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 381,000
		Impact Fee Project Cost TOTAL:	**$ 3,531,000**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Rowlett.

The planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-D
Name:	Merritt Rd.	**This project (currently under construction) consists of the construction of Merritt Rd. as a four-lane divided secondary thoroughfare. This project was a total cost of $15,292,905 with a City of Rowlett contribution of $2,926,087.**	
Limits:	N. City Limit to 860' SE. of Future Liberty Grove-Merritt Connector		
Impact Fee Type:	B		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	8,048		
Service Area(s):	1		

Impact Fee Project Cost Summary			
Item Description	**Notes:**	**Allowance**	**Item Cost**
City Contribution to Construction Cost:		-	**$ 2,926,087**
Engineering/Survey/Testing			
Other			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 2,926,087**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Rowlett.

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:	Description:	Project No.	1-E

Name: Liberty Grove-Merritt Connector (1)
Limits: PGBT NBFR to 805' E. of PGBT NBFR
Impact Fee Type: A
Ultimate Class: Major Thoroughfare
Length (lf): 807
Service Area(s): 1

This project consists of the construction of the Liberty Grove-Merritt Connector as a new 6-lane divided major thoroughfare.

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
103	Unclassified Street Excavation	3,587	cy	$ 12.00	$ 43,040
203	6" Lime Stabilization (with Lime @ 27#/sy)	6,994	sy	$ 4.00	$ 27,976
303	10" Concrete Pavement w/ 6" Curb	6,635	sy	$ 46.00	$ 305,225
403	4" Topsoil	2,511	sy	$ 5.00	$ 12,553
503	4' Concrete Sidewalk	6,456	sf	$ 4.00	$ 25,824
603	Turn Lanes and Median Openings	583	sy	$ 46.00	$ 26,836
				Paving Construction Cost Subtotal:	**$ 441,455**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 26,487
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 13,244
√	Roadway Drainage	Standard Internal System	30%	$ 132,436
√	Illumination		6%	$ 26,487
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 26,487
√	Sewer	Minor Adjustments	4%	$ 17,658
√	Establish Turf / Erosion Control		3%	$ 13,244
√	Basic Landscaping		3%	$ 13,244
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 269,287**
			Paving and Allowance Subtotal:	**$ 710,742**
			Construction Contingency: 10%	$ 71,074
			Construction Cost TOTAL:	**$ 782,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 782,000**
Engineering/Survey/Testing:		18%	$ 140,760
Mobilization		6%	$ 46,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 234,600
		Impact Fee Project Cost TOTAL:	**$ 1,204,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-F
Name:	Liberty Grove-Merritt Connector (2)	**This project consists of the construction of the Liberty Grove-Merritt Connector as a new 4-lane undivided secondary thoroughfare.**	
Limits:	805' E. of PGBT NBFR to Liberty Grove Rd.		
Impact Fee Type:	B		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	2,567		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
106	Unclassified Street Excavation	6,845	cy	$ 12.00	$ 82,144
206	6" Lime Stabilization (with Lime @ 27#/sy)	13,405	sy	$ 4.00	$ 53,622
306	8" Concrete Pavement w/ 6" Curb	12,835	sy	$ 46.00	$ 590,410
406	4" Topsoil	3,993	sy	$ 5.00	$ 19,966
506	4' Concrete Sidewalk	20,536	sf	$ 4.00	$ 82,144
606	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 828,285**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 49,697
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 24,849
√	Roadway Drainage	Standard Internal System	30%	$ 248,486
√	Illumination		6%	$ 49,697
√	Special Drainage Structures	Crosses Muddy Creek	$500,000	$ 500,000
√	Water	Minor Adjustments	6%	$ 49,697
√	Sewer	Minor Adjustments	4%	$ 33,131
√	Establish Turf / Erosion Control		3%	$ 24,849
√	Basic Landscaping		3%	$ 24,849
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,005,254**
			Paving and Allowance Subtotal:	**$ 1,833,539**
			Construction Contingency: 10%	$ 183,354
			Construction Cost TOTAL:	**$ 2,017,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,017,000**
Engineering/Survey/Testing:		18%	$ 363,060
Mobilization		6%	$ 121,020
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 605,100
		Impact Fee Project Cost TOTAL:	**$ 3,106,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-G
Name:	Liberty Grove Rd. (1)	**This project consists of the reconstruction of Liberty Grove Rd. as a 4-lane undivided secondary thoroughfare.**	
Limits:	Rosebud Dr. to PGBT SBFR		
Impact Fee Type:	B		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	3,550		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
106	Unclassified Street Excavation	9,467	cy	$ 12.00	$ 113,600
206	6" Lime Stabilization (with Lime @ 27#/sy)	18,539	sy	$ 4.00	$ 74,156
306	8" Concrete Pavement w/ 6" Curb	17,750	sy	$ 46.00	$ 816,500
406	4" Topsoil	5,522	sy	$ 5.00	$ 27,611
506	4' Concrete Sidewalk	28,400	sf	$ 4.00	$ 113,600
606	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 1,145,467**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 68,728
√	Traffic Control	Construction Phase Traffic Control	5%	$ 57,273
√	Pavement Markings/Markers		3%	$ 34,364
√	Roadway Drainage	Standard Internal System	30%	$ 343,640
√	Illumination		6%	$ 68,728
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 68,728
√	Sewer	Minor Adjustments	4%	$ 45,819
√	Establish Turf / Erosion Control		3%	$ 34,364
√	Basic Landscaping		3%	$ 34,364
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 756,008**
			Paving and Allowance Subtotal:	**$ 1,901,475**
			Construction Contingency: 10%	$ 190,147
			Construction Cost TOTAL:	**$ 2,092,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,092,000**
Engineering/Survey/Testing:		18%	$ 376,560
Mobilization		6%	$ 125,520
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 313,800
		Impact Fee Project Cost TOTAL:	**$ 2,908,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No.	1-H
Name:	Liberty Grove Rd. (2)	**This project consists of the reconstruction of Liberty Grove Rd. as a 4-lane undivided secondary thoroughfare.**		
Limits:	PGBT NBFR to Merritt Rd.			
Impact Fee Type:	B			
Ultimate Class:	Secondary Thoroughfare			
Length (lf):	819			
Service Area(s):	1			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
106	Unclassified Street Excavation	2,184	cy	$ 12.00	$ 26,208
206	6" Lime Stabilization (with Lime @ 27#/sy)	4,277	sy	$ 4.00	$ 17,108
306	8" Concrete Pavement w/ 6" Curb	4,095	sy	$ 46.00	$ 188,370
406	4" Topsoil	1,274	sy	$ 5.00	$ 6,370
506	4' Concrete Sidewalk	6,552	sf	$ 4.00	$ 26,208
606	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 264,264**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 15,856
√	Traffic Control	Construction Phase Traffic Control	5%	$ 13,213
√	Pavement Markings/Markers		3%	$ 7,928
√	Roadway Drainage	Standard Internal System	30%	$ 79,279
√	Illumination		6%	$ 15,856
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 15,856
√	Sewer	Minor Adjustments	4%	$ 10,571
√	Establish Turf / Erosion Control		3%	$ 7,928
√	Basic Landscaping		3%	$ 7,928
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 174,414**
			Paving and Allowance Subtotal:	**$ 438,678**
			Construction Contingency: 10%	$ 43,868
			Construction Cost TOTAL:	**$ 483,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 483,000**
Engineering/Survey/Testing:		18%	$ 86,940
Mobilization		6%	$ 28,980
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 72,450
		Impact Fee Project Cost TOTAL:	**$ 671,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-I
Name:	Liberty Grove Rd. (3)	**This project consists of the reconstruction of Liberty Grove Rd. as a 4-lane undivided secondary thoroughfare.**	
Limits:	Merritt Rd. to Chiesa Rd.		
Impact Fee Type:	B		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	4,990		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
106	Unclassified Street Excavation	13,307	cy	$ 12.00	$ 159,680
206	6" Lime Stabilization (with Lime @ 27#/sy)	26,059	sy	$ 4.00	$ 104,236
306	8" Concrete Pavement w/ 6" Curb	24,950	sy	$ 46.00	$ 1,147,700
406	4" Topsoil	7,762	sy	$ 5.00	$ 38,811
506	4' Concrete Sidewalk	39,920	sf	$ 4.00	$ 159,680
606	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 1,610,107**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 96,606
√	Traffic Control	Construction Phase Traffic Control	5%	$ 80,505
√	Pavement Markings/Markers		3%	$ 48,303
√	Roadway Drainage	Standard Internal System	30%	$ 483,032
√	Illumination		6%	$ 96,606
√	Special Drainage Structures	Crosses Muddy Creek	$500,000	$ 500,000
√	Water	Minor Adjustments	6%	$ 96,606
√	Sewer	Minor Adjustments	4%	$ 64,404
√	Establish Turf / Erosion Control		3%	$ 48,303
√	Basic Landscaping		3%	$ 48,303
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,562,670**
			Paving and Allowance Subtotal:	**$ 3,172,777**
			Construction Contingency: 10%	$ 317,278
			Construction Cost TOTAL:	**$ 3,491,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 3,491,000**
Engineering/Survey/Testing:		18%	$ 628,380
Mobilization		6%	$ 209,460
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 523,650
		Impact Fee Project Cost TOTAL:	**$ 4,852,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-J
Name:	Liberty Grove Rd. (4)	**This completed project consisted of the widening of Liberty Grove Rd. to a four-lane divided secondary thoroughfare. This project was part of a 2007 project that included Chiesa Rd. The total Rowlett contribution was $2,171,924. $365,293 (17%) of this cost was included in this project.**	
Limits:	Chiesa Rd. to Princeton Rd.		
Impact Fee Type:	B		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	1,492		
Service Area(s):	1		

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
City Contribution to Construction Cost:		-	**$ 365,293**
Engineering/Survey/Testing			
Other			
ROW/Easement Acquisition:			
		Impact Fee Project Cost TOTAL:	**$ 365,293**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-K
Name:	Liberty Grove Rd. (5)	**This project consists of the reconstruction of Liberty Grove Rd. as a 4-lane undivided secondary thoroughfare.**	
Limits:	Broadmoor Ln. to Elm Grove Rd.		
Impact Fee Type:	B		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	4,440		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
106	Unclassified Street Excavation	11,840	cy	$ 12.00	$ 142,080
206	6" Lime Stabilization (with Lime @ 27#/sy)	23,187	sy	$ 4.00	$ 92,747
306	8" Concrete Pavement w/ 6" Curb	22,200	sy	$ 46.00	$ 1,021,200
406	4" Topsoil	6,907	sy	$ 5.00	$ 34,533
506	4' Concrete Sidewalk	35,520	sf	$ 4.00	$ 142,080
606	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 1,432,640**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 85,958
√	Traffic Control	Construction Phase Traffic Control	5%	$ 71,632
√	Pavement Markings/Markers		3%	$ 42,979
√	Roadway Drainage	Standard Internal System	30%	$ 429,792
√	Illumination		6%	$ 85,958
√	Special Drainage Structures	Minor Stream Crossing	$150,000	$ 150,000
√	Water	Minor Adjustments	6%	$ 85,958
√	Sewer	Minor Adjustments	4%	$ 57,306
√	Establish Turf / Erosion Control		3%	$ 42,979
√	Basic Landscaping		3%	$ 42,979
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,095,542**
			Paving and Allowance Subtotal:	**$ 2,528,182**
			Construction Contingency: 10%	$ 252,818
			Construction Cost TOTAL:	**$ 2,782,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,782,000**
Engineering/Survey/Testing:		18%	$ 500,760
Mobilization		6%	$ 166,920
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 417,300
		Impact Fee Project Cost TOTAL:	**$ 3,867,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-L
Name:	Elm Grove Rd.	**This project consists of the reconstruction of Elm Grove Rd. as a 4-lane undivided secondary thoroughfare.**	
Limits:	N. City Limit to Liberty Grove Rd.		
Impact Fee Type:	B		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	5,684		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
106	Unclassified Street Excavation	15,157	cy	$ 12.00	$ 181,888
206	6" Lime Stabilization (with Lime @ 27#/sy)	29,683	sy	$ 4.00	$ 118,732
306	8" Concrete Pavement w/ 6" Curb	28,420	sy	$ 46.00	$ 1,307,320
406	4" Topsoil	8,842	sy	$ 5.00	$ 44,209
506	4' Concrete Sidewalk	45,472	sf	$ 4.00	$ 181,888
606	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 1,834,037**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 110,042
√	Traffic Control	Construction Phase Traffic Control	5%	$ 91,702
√	Pavement Markings/Markers		3%	$ 55,021
√	Roadway Drainage	Standard Internal System	30%	$ 550,211
√	Illumination		6%	$ 110,042
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 110,042
√	Sewer	Minor Adjustments	4%	$ 73,361
√	Establish Turf / Erosion Control		3%	$ 55,021
√	Basic Landscaping		3%	$ 55,021
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,210,465**
			Paving and Allowance Subtotal:	**$ 3,044,502**
			Construction Contingency: 10%	$ 304,450
			Construction Cost TOTAL:	**$ 3,349,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 3,349,000**
Engineering/Survey/Testing:		18%	$ 602,820
Mobilization		6%	$ 200,940
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 502,350
		Impact Fee Project Cost TOTAL:	**$ 4,655,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:	Description:	Project No.	1-M
Name:	Dalrock Rd. (1)	**This project consists of the reconstruction of Dalrock Rd. as a 4-lane divided secondary thoroughfare.**	
Limits:	Liberty Grove Rd. to 770' SE. of Lake North Rd.		
Impact Fee Type:	B+		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	2,409		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	7,495	cy	$ 12.00	$ 89,936
205	6" Lime Stabilization (with Lime @ 27#/sy)	14,454	sy	$ 4.00	$ 57,816
305	8" Concrete Pavement w/ 6" Curb	13,383	sy	$ 38.00	$ 508,567
405	4" Topsoil	7,227	sy	$ 5.00	$ 36,135
505	4' Concrete Sidewalk	19,272	sf	$ 4.00	$ 77,088
605	Turn Lanes and Median Openings	1,742	sy	$ 38.00	$ 66,177
				Paving Construction Cost Subtotal:	**$ 835,719**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 50,143
√	Traffic Control	Construction Phase Traffic Control	5%	$ 41,786
√	Pavement Markings/Markers		3%	$ 25,072
√	Roadway Drainage	Standard Internal System	30%	$ 250,716
√	Illumination		6%	$ 50,143
√	Special Drainage Structures	Minor Stream Crossing	$250,000	$ 250,000
√	Water	Minor Adjustments	6%	$ 50,143
√	Sewer	Minor Adjustments	4%	$ 33,429
√	Establish Turf / Erosion Control		3%	$ 25,072
√	Basic Landscaping		3%	$ 25,072
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 801,574**
			Paving and Allowance Subtotal:	**$ 1,637,293**
			Construction Contingency: 10%	$ 163,729
			Construction Cost TOTAL:	**$ 1,802,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,802,000**
Engineering/Survey/Testing:		18%	$ 324,360
Mobilization		6%	$ 108,120
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 270,300
		Impact Fee Project Cost TOTAL:	**$ 2,505,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:	Description:	Project No.	1-N
Name:	Dalrock Rd. (2)	**This project consists of the reconstruction of Dalrock Rd. as a 4-lane divided secondary thoroughfare.**	
Limits:	105' NE. of Pecan Ln. to Princeton Rd.		
Impact Fee Type:	B+		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	7,663		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	23,840	cy	$ 12.00	$ 286,085
205	6" Lime Stabilization (with Lime @ 27#/sy)	45,978	sy	$ 4.00	$ 183,912
305	8" Concrete Pavement w/ 6" Curb	42,572	sy	$ 38.00	$ 1,617,744
405	4" Topsoil	22,989	sy	$ 5.00	$ 114,945
505	4' Concrete Sidewalk	61,304	sf	$ 4.00	$ 245,216
605	Turn Lanes and Median Openings	5,540	sy	$ 38.00	$ 210,509
				Paving Construction Cost Subtotal:	**$ 2,658,412**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 159,505
√	Traffic Control	Construction Phase Traffic Control	5%	$ 132,921
√	Pavement Markings/Markers		3%	$ 79,752
√	Roadway Drainage	Standard Internal System	30%	$ 797,524
√	Illumination		6%	$ 159,505
√	Special Drainage Structures	Minor Stream Crossing	$250,000	$ 250,000
√	Water	Minor Adjustments	6%	$ 159,505
√	Sewer	Minor Adjustments	4%	$ 106,336
√	Establish Turf / Erosion Control		3%	$ 79,752
√	Basic Landscaping		3%	$ 79,752
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 2,004,552**
			Paving and Allowance Subtotal:	**$ 4,662,964**
			Construction Contingency: 10%	$ 466,296
			Construction Cost TOTAL:	**$ 5,130,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 5,130,000**
Engineering/Survey/Testing:		18%	$ 923,400
Mobilization		6%	$ 307,800
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 769,500
		Impact Fee Project Cost TOTAL:	**$ 7,131,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-O
Name:	Dalrock Rd. (3)	**This project consists of the construction of two additional lanes within the existing median.**	
Limits:	Princeton Rd. to Lakeview Pkwy.		
Impact Fee Type:	A (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	1,911		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	4,247	cy	$ 12.00	$ 50,960
204	6" Lime Stabilization (with Lime @ 27#/sy)	8,281	sy	$ 4.00	$ 33,124
304	10" Concrete Pavement w/ 6" Curb	7,856	sy	$ 46.00	$ 361,391
404	4" Topsoil	2,442	sy	$ 5.00	$ 12,209
504	4' Concrete Sidewalk	15,288	sf	$ 4.00	$ 61,152
604	Turn Lanes and Median Openings	1,381	sy	$ 46.00	$ 63,549
				Paving Construction Cost Subtotal:	**$ 582,385**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 34,943
√	Traffic Control	Construction Phase Traffic Control	5%	$ 29,119
√	Pavement Markings/Markers		3%	$ 17,472
	Roadway Drainage	None Anticipated	0%	$ -
	Illumination		0%	$ -
	Special Drainage Structures	None Anticipated	0%	$ -
	Water	None Anticipated	0%	$ -
	Sewer	None Anticipated	0%	$ -
√	Establish Turf / Erosion Control		3%	$ 17,472
√	Basic Landscaping		3%	$ 17,472
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 116,477**
			Paving and Allowance Subtotal:	**$ 698,862**
			Construction Contingency: 10%	$ 69,886
			Construction Cost TOTAL:	**$ 769,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 769,000**
Engineering/Survey/Testing:		18%	$ 138,420
Mobilization		6%	$ 46,140
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	$ -
		Impact Fee Project Cost TOTAL:	**$ 954,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:	Description:	Project No. 1-P
Name:	Princeton Rd.	**This project consists of the new 2-lane undivided collector extension of Princeton Rd. north of Liberty Grove Rd.**
Limits:	Existing Princeton Rd. to Liberty Grove Rd.	
Impact Fee Type:	C	
Ultimate Class:	Collector Thoroughfare	
Length (lf):	987	
Service Area(s):	1	

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	2,303	cy	$ 12.00	$ 27,636
207	6" Lime Stabilization (with Lime @ 27#/sy)	4,496	sy	$ 4.00	$ 17,985
307	8" Concrete Pavement w/ 6" Curb	4,277	sy	$ 38.00	$ 162,526
407	4" Topsoil	1,426	sy	$ 5.00	$ 7,128
507	4' Concrete Sidewalk	7,896	sf	$ 4.00	$ 31,584
607	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 246,860**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 14,812
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 7,406
√	Roadway Drainage	Standard Internal System	30%	$ 74,058
√	Illumination		6%	$ 14,812
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 14,812
√	Sewer	Minor Adjustments	4%	$ 9,874
√	Establish Turf / Erosion Control		3%	$ 7,406
√	Basic Landscaping		3%	$ 7,406
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 150,584**
			Paving and Allowance Subtotal:	**$ 397,444**
			Construction Contingency: 10%	$ 39,744
			Construction Cost TOTAL:	**$ 438,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 438,000**
Engineering/Survey/Testing:		18%	$ 78,840
Mobilization		6%	$ 26,280
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 131,400
		Impact Fee Project Cost TOTAL:	**$ 675,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-Q
Name:	Chiesa Rd. (1)	**This project consists of the reconstruction of Chiesa Rd. as a 4-lane undivided secondary thoroughfare.**	
Limits:	Liberty Grove Rd. to Danridge Rd.		
Impact Fee Type:	B		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	7,379		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
106	Unclassified Street Excavation	19,677	cy	$ 12.00	$ 236,128
206	6" Lime Stabilization (with Lime @ 27#/sy)	38,535	sy	$ 4.00	$ 154,139
306	8" Concrete Pavement w/ 6" Curb	36,895	sy	$ 46.00	$ 1,697,170
406	4" Topsoil	11,478	sy	$ 5.00	$ 57,392
506	4' Concrete Sidewalk	59,032	sf	$ 4.00	$ 236,128
606	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 2,380,957**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 142,857
√	Traffic Control	Construction Phase Traffic Control	5%	$ 119,048
√	Pavement Markings/Markers		3%	$ 71,429
√	Roadway Drainage	Standard Internal System	30%	$ 714,287
√	Illumination		6%	$ 142,857
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 142,857
√	Sewer	Minor Adjustments	4%	$ 95,238
√	Establish Turf / Erosion Control		3%	$ 71,429
√	Basic Landscaping		3%	$ 71,429
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,571,432**
			Paving and Allowance Subtotal:	**$ 3,952,389**
			Construction Contingency: 10%	$ 395,239
			Construction Cost TOTAL:	**$ 4,348,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 4,348,000**
Engineering/Survey/Testing:		18%	$ 782,640
Mobilization		6%	$ 260,880
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 652,200
		Impact Fee Project Cost TOTAL:	**$ 6,044,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-R
Name:	Danridge Rd.	**This project consists of a new 2-lane undivided collector extension of Danridge Rd.**	
Limits:	Maplewood Dr. to Traveler's Crossing		
Impact Fee Type:	C		
Ultimate Class:	Collector Thoroughfare		
Length (lf):	1,321		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	3,082	cy	$ 12.00	$ 36,988
207	6" Lime Stabilization (with Lime @ 27#/sy)	6,018	sy	$ 4.00	$ 24,072
307	8" Concrete Pavement w/ 6" Curb	5,724	sy	$ 38.00	$ 217,525
407	4" Topsoil	1,908	sy	$ 5.00	$ 9,541
507	4' Concrete Sidewalk	10,568	sf	$ 4.00	$ 42,272
607	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 330,397**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 19,824
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 9,912
√	Roadway Drainage	Standard Internal System	30%	$ 99,119
√	Illumination		6%	$ 19,824
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 19,824
√	Sewer	Minor Adjustments	4%	$ 13,216
√	Establish Turf / Erosion Control		3%	$ 9,912
√	Basic Landscaping		3%	$ 9,912
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 201,542**
			Paving and Allowance Subtotal:	**$ 531,939**
			Construction Contingency: 10%	$ 53,194
			Construction Cost TOTAL:	**$ 586,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 586,000**
Engineering/Survey/Testing:		18%	$ 105,480
Mobilization		6%	$ 35,160
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 175,800
		Impact Fee Project Cost TOTAL:	**$ 902,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-S
Name:	Freedom Ln.	**This project consists of a new 2-lane undivided collector extension of Freedom Ln.**	
Limits:	Big A. Rd. to Lakeview Pkwy.		
Impact Fee Type:	C		
Ultimate Class:	Collector Thoroughfare		
Length (lf):	781		
Service Area(s):	1		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
107	Unclassified Street Excavation	1,822	cy	$ 12.00	$ 21,868
207	6" Lime Stabilization (with Lime @ 27#/sy)	3,558	sy	$ 4.00	$ 14,232
307	8" Concrete Pavement w/ 6" Curb	3,384	sy	$ 38.00	$ 128,605
407	4" Topsoil	1,128	sy	$ 5.00	$ 5,641
507	4' Concrete Sidewalk	6,248	sf	$ 4.00	$ 24,992
607	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 195,337**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 11,720
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 5,860
√	Roadway Drainage	Standard Internal System	30%	$ 58,601
√	Illumination		6%	$ 11,720
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 11,720
√	Sewer	Minor Adjustments	4%	$ 7,813
√	Establish Turf / Erosion Control		3%	$ 5,860
√	Basic Landscaping		3%	$ 5,860
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 119,155**
			Paving and Allowance Subtotal:	**$ 314,492**
			Construction Contingency: 10%	$ 31,449
			Construction Cost TOTAL:	**$ 346,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 346,000**
Engineering/Survey/Testing:		18%	$ 62,280
Mobilization		6%	$ 20,760
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 103,800
		Impact Fee Project Cost TOTAL:	**$ 533,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No.	1-T, 2-L
Name:	Lakeview Pkwy.	**This project consists of the construction of two additional lanes in the existing median of this future 6-lane major thoroughfare.**		
Limits:	Dalrock Rd. to E. City Limit			
Impact Fee Type:	A+ (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	4,225			
Service Area(s):	1,2			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	9,389	cy	$ 12.00	$ 112,667
202	6" Lime Stabilization (with Lime @ 27#/sy)	18,308	sy	$ 4.00	$ 73,233
302	10" Concrete Pavement w/ 6" Curb	17,369	sy	$ 46.00	$ 798,994
402	4" Topsoil	5,399	sy	$ 5.00	$ 26,993
502	4' Concrete Sidewalk	33,800	sf	$ 4.00	$ 135,200
602	Turn Lanes and Median Openings	3,054	sy	$ 46.00	$ 140,499
				Paving Construction Cost Subtotal:	**$ 1,287,586**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 77,255
√	Traffic Control	Construction Phase Traffic Control	5%	$ 64,379
√	Pavement Markings/Markers		3%	$ 38,628
	Roadway Drainage	None Anticipated	0%	$ -
	Illumination		0%	$ -
	Special Drainage Structures	None Anticipated	0%	$ -
	Water	None Anticipated	0%	$ -
	Sewer	None Anticipated	0%	$ -
√	Establish Turf / Erosion Control		3%	$ 38,628
√	Basic Landscaping		3%	$ 38,628
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 257,517**
			Paving and Allowance Subtotal:	**$ 1,545,104**
			Construction Contingency: 10%	$ 154,510
			Construction Cost TOTAL:	**$ 1,700,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,700,000**
Engineering/Survey/Testing:		18%	$ 306,000
Mobilization		6%	$ 102,000
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	$ -
		Impact Fee Project Cost TOTAL:	**$ 2,108,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No.	1-U
Name:	HL Collector #1	**This project consists of the construction of a new 2-lane undivided collector.**		
Limits:	HL Collector #1			
Impact Fee Type:	HL-C3			
Ultimate Class:	Healthy Living Collector-3			
Length (lf):	1,160			
Service Area(s):	1			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
114	Unclassified Street Excavation	2,964	cy	$ 12.00	$ 35,573
214	6" Lime Stabilization (with Lime @ 27#/sy)	5,800	sy	$ 4.00	$ 23,200
314	8" Concrete Pavement w/ 6" Curb	5,542	sy	$ 38.00	$ 210,604
414	4" Topsoil	2,256	sy	$ 5.00	$ 11,278
514	5' Concrete Sidewalk	5,800	sf	$ 4.00	$ 23,200
614	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 303,856**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 18,231
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 9,116
√	Roadway Drainage	Standard Internal System	30%	$ 91,157
√	Illumination		6%	$ 18,231
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 18,231
√	Sewer	Minor Adjustments	4%	$ 12,154
√	Establish Turf / Erosion Control		3%	$ 9,116
√	Basic Landscaping		3%	$ 9,116
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 185,352**
			Paving and Allowance Subtotal:	**$ 489,207**
			Construction Contingency: 10%	$ 48,921
			Construction Cost TOTAL:	**$ 539,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 539,000**
Engineering/Survey/Testing:		18%	$ 97,020
Mobilization		6%	$ 32,340
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 161,700
		Impact Fee Project Cost TOTAL:	**$ 830,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No.	1-V
Name:	HL Collector #2	**This project consists of the construction of a new 2-lane undivided collector.**		
Limits:	HL Collector #2			
Impact Fee Type:	HL-C2			
Ultimate Class:	Healthy Living Collector-2			
Length (lf):	1,160			
Service Area(s):	1			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
113	Unclassified Street Excavation	2,707	cy	$ 12.00	$ 32,480
213	6" Lime Stabilization (with Lime @ 27#/sy)	5,284	sy	$ 4.00	$ 21,138
313	8" Concrete Pavement w/ 6" Curb	5,027	sy	$ 38.00	$ 191,013
413	4" Topsoil	0	sy	$ -	$ -
513	11' Concrete Sidewalk	25,520	sf	$ 4.00	$ 102,080
613	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 346,711**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 20,803
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 10,401
√	Roadway Drainage	Standard Internal System	30%	$ 104,013
√	Illumination		6%	$ 20,803
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 20,803
√	Sewer	Minor Adjustments	4%	$ 13,868
√	Establish Turf / Erosion Control		3%	$ 10,401
√	Basic Landscaping		3%	$ 10,401
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 211,494**
			Paving and Allowance Subtotal:	**$ 558,205**
			Construction Contingency: 10%	$ 55,820
			Construction Cost TOTAL:	**$ 615,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 615,000**
Engineering/Survey/Testing:		18%	$ 110,700
Mobilization		6%	$ 36,900
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 184,500
		Impact Fee Project Cost TOTAL:	**$ 947,000**

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EXHIBIT A

City of Rowlett - 2013 Roadway Impact Fee Study

Capital Improvements Plan for Roadway Impact Fees

Summary of Conceptual Level Project Cost Projections

Roadway Improvements - Service Area 2

#	Class	Project	Limits	Percent in Service Area	Project Cost	Project Cost in Service Area
2-A	B	Main St.	Lakeview Pkwy. to 310' W. of Rowlett Rd.	100%	$ 5,181,000	$ 5,181,000
2-B	B	Future Main-Century Connection	Main St. to Century Dr.	100%	$ 942,000	$ 942,000
2-C	A (1/3)	Miller Rd. (1)	Dexham Rd. to Rowlett Rd.	100%	$ 5,128,000	$ 5,128,000
2-D	A (1/3)	Miller Rd. (2)	Rowlett Rd. to PGBT SBFR	100%	$ 2,433,000	$ 2,433,000
2-E	A (1/3)	Miller Rd. (3)	PGBT NBFR to 360' E. of PGBT NBFR	100%	$ 181,000	$ 181,000
2-F	A	Miller Rd. (4)	360' E. of PGBT NBFR to Lake Ray Hubbard Bridge	100%	$ 1,540,000	$ 1,540,000
2-G	A	Miller Rd. (5)	Lake Ray Hubbard Bridge to 372' W. of Dalrock Rd.	100%	$ 5,115,000	$ 5,115,000
2-H	B+	Chiesa Rd. (2)	360' S. of Lakeview Pkwy. to Miller Rd.	100%	$ 6,194,000	$ 6,194,000
2-I	B+	Chiesa Rd. (3)	Miller Rd. to Dalrock Rd.	100%	$ 5,878,000	$ 5,878,000
2-J	A (1/3)	Dalrock Rd. (4)	Lakeview Pkwy. to Miller Rd.	100%	$ 4,707,000	$ 4,707,000
2-K	A (1/3)	Dalrock Rd. (5)	Miller Rd. to S. City Limits	100%	$ 2,196,000	$ 2,196,000
1-T, 2-L	A+ (1/3)	Lakeview Pkwy.	Dalrock Rd. to E. City Limit	50%	$ 2,108,000	$ 1,054,000
2-M	D-C	Melcer Dr.	Melcer Dr. Extension	100%	$ 741,000	$ 741,000
2-N	D-C	Martin Dr. (1)	Coyle St. to South End	100%	$ 644,000	$ 644,000
2-O	C	Martin Dr. (2)	Melcer Dr. to Coyle St.	100%	$ 822,727	$ 822,727
2-P	A (1/3)	Rowlett Rd.	Century Dr. to Kyle Rd.	100%	$ 3,792,336	$ 3,792,336
2-Q	SG-C5	SG Collector #1	SG Collector #1	100%	$ 1,184,000	$ 1,184,000
2-R	SG-C5	SG Collector #2	SG Collector #2	100%	$ 310,000	$ 310,000
2-S	SG-C5	SG Collector #3	SG Collector #3	100%	$ 698,000	$ 698,000
2-T	SG-C4	SG Collector #4	SG Collector #4	100%	$ 633,000	$ 633,000
2-U	SG-A+	SG Major Thoroughfare	SG Major Thoroughfare	100%	$ 450,000	$ 450,000
2-V	HL-C1	HL Collector #3	HL Collector #3	100%	$ 590,000	$ 590,000
Intersection Improvements						
1		Intersection Improvement	Dalrock Rd. at Lakeview Pkwy.	50%	$ 1,250,000	$ 625,000
2		Intersection Improvement	Dalrock Rd. at Chiesa Rd.	100%	$ 750,000	$ 750,000
3		Signal Installation	Dexham Rd. at Miller Rd.	100%	$ 250,000	$ 250,000
			TOTAL		**$ 53,718,063**	**$ 52,039,063**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:	Description:	Project No.	2-A
Name:	Main St.		
Limits:	Lakeview Pkwy. to 310' W. of Rowlett Rd.		
Impact Fee Type:	B		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	3,058		
Service Area(s):	2		

This project consists of the reconstruction of Main St. as a 4-lane undivided secondary thoroughfare.

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
106	Unclassified Street Excavation	8,155	cy	$ 12.00	$ 97,856
206	6" Lime Stabilization (with Lime @ 27#/sy)	15,970	sy	$ 4.00	$ 63,878
306	8" Concrete Pavement w/ 6" Curb	15,290	sy	$ 46.00	$ 703,340
406	4" Topsoil	4,757	sy	$ 5.00	$ 23,784
506	4' Concrete Sidewalk	24,464	sf	$ 4.00	$ 97,856
606	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 986,715**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 59,203
√	Traffic Control	Construction Phase Traffic Control	5%	$ 49,336
√	Pavement Markings/Markers		3%	$ 29,601
√	Roadway Drainage	Standard Internal System	30%	$ 296,014
√	Illumination		6%	$ 59,203
√	Special Drainage Structures	Crosses Long Branch Creek	$250,000	$ 250,000
√	Water	Minor Adjustments	6%	$ 59,203
√	Sewer	Minor Adjustments	4%	$ 39,469
√	Establish Turf / Erosion Control		3%	$ 29,601
√	Basic Landscaping		3%	$ 29,601
√	Other:	Railroad Crossing	$1,500,000	$ 1,500,000
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 2,401,232**
			Paving and Allowance Subtotal:	**$ 3,387,946**
			Construction Contingency: 10%	$ 338,795
			Construction Cost TOTAL:	**$ 3,727,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 3,727,000**
Engineering/Survey/Testing:		18%	$ 670,860
Mobilization		6%	$ 223,620
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 559,050
		Impact Fee Project Cost TOTAL:	**$ 5,181,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 2-B
Name:	Future Main-Century Connection	**This project consists of the construction of a new 4-lane undivided secondary thoroughfare.**	
Limits:	Main St. to Century Dr.		
Impact Fee Type:	B		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	588		
Service Area(s):	2		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
106	Unclassified Street Excavation	1,568	cy	$ 12.00	$ 18,816
206	6" Lime Stabilization (with Lime @ 27#/sy)	3,071	sy	$ 4.00	$ 12,283
306	8" Concrete Pavement w/ 6" Curb	2,940	sy	$ 46.00	$ 135,240
406	4" Topsoil	915	sy	$ 5.00	$ 4,573
506	4' Concrete Sidewalk	4,704	sf	$ 4.00	$ 18,816
606	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 189,728**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 11,384
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 5,692
√	Roadway Drainage	Standard Internal System	30%	$ 56,918
√	Illumination		6%	$ 11,384
√	Special Drainage Structures	Crosses Long Branch Creek	$250,000	$ 250,000
√	Water	Minor Adjustments	6%	$ 11,384
√	Sewer	Minor Adjustments	4%	$ 7,589
√	Establish Turf / Erosion Control		3%	$ 5,692
√	Basic Landscaping		3%	$ 5,692
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 365,734**
			Paving and Allowance Subtotal:	**$ 555,462**
			Construction Contingency: 10%	$ 55,546
			Construction Cost TOTAL:	**$ 612,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 612,000**
Engineering/Survey/Testing:		18%	$ 110,160
Mobilization		6%	$ 36,720
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 183,600
		Impact Fee Project Cost TOTAL:	**$ 942,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No.	2-C
Name:	Miller Rd. (1)	**This project consists of the construction of two additional lanes in the existing median of this future 6-lane major thoroughfare. This project includes $2,445,660 for the 2008 construction of the existing 4 lanes.**		
Limits:	Dexham Rd. to Rowlett Rd.			
Impact Fee Type:	A (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	5,375			
Service Area(s):	2			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	11,944	cy	$ 12.00	$ 143,333
204	6" Lime Stabilization (with Lime @ 27#/sy)	23,292	sy	$ 4.00	$ 93,167
304	10" Concrete Pavement w/ 6" Curb	22,097	sy	$ 46.00	$ 1,016,472
404	4" Topsoil	6,868	sy	$ 5.00	$ 34,340
504	4' Concrete Sidewalk	43,000	sf	$ 4.00	$ 172,000
604	Turn Lanes and Median Openings	3,886	sy	$ 46.00	$ 178,741
				Paving Construction Cost Subtotal:	**$ 1,638,054**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 98,283
√	Traffic Control	Construction Phase Traffic Control	5%	$ 81,903
√	Pavement Markings/Markers		3%	$ 49,142
	Roadway Drainage	None Anticipated	0%	$ -
	Illumination		0%	$ -
	Special Drainage Structures	None Anticipated	0%	$ -
	Water	None Anticipated	0%	$ -
	Sewer	None Anticipated	0%	$ -
√	Establish Turf / Erosion Control		3%	$ 49,142
√	Basic Landscaping		3%	$ 49,142
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 327,611**
			Paving and Allowance Subtotal:	**$ 1,965,664**
			Construction Contingency: 10%	$ 196,566
			Construction Cost TOTAL:	**$ 2,163,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 2,163,000**
Engineering/Survey/Testing:		18%	$ 389,340
Mobilization		6%	$ 129,780
Previous City contribution	2008 Miller Rd. Phase 1		$ 2,445,660
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	$ -
		Impact Fee Project Cost TOTAL:	**$ 5,128,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 2-D
Name:	Miller Rd. (2)	**This project consists of the construction of two additional lanes in the existing median of the future 6-lane major thoroughfare. This project includes a 2004 Dallas County project from Skyline Rd. to Kirby Rd. The total project cost was $2,898,410 of which the City contributed $393,002.**	
Limits:	Rowlett Rd. to PGBT SBFR		
Impact Fee Type:	A (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	4,088		
Service Area(s):	2		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	9,084	cy	$ 12.00	$ 109,013
204	6" Lime Stabilization (with Lime @ 27#/sy)	17,715	sy	$ 4.00	$ 70,859
304	10" Concrete Pavement w/ 6" Curb	16,806	sy	$ 46.00	$ 773,086
404	4" Topsoil	5,224	sy	$ 5.00	$ 26,118
504	4' Concrete Sidewalk	32,704	sf	$ 4.00	$ 130,816
604	Turn Lanes and Median Openings	2,955	sy	$ 46.00	$ 135,943
				Paving Construction Cost Subtotal:	**$ 1,245,835**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 74,750
√	Traffic Control	Construction Phase Traffic Control	5%	$ 62,292
√	Pavement Markings/Markers		3%	$ 37,375
	Roadway Drainage	None Anticipated	0%	$ -
	Illumination		0%	$ -
	Special Drainage Structures	None Anticipated	0%	$ -
	Water	None Anticipated	0%	$ -
	Sewer	None Anticipated	0%	$ -
√	Establish Turf / Erosion Control		3%	$ 37,375
√	Basic Landscaping		3%	$ 37,375
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 249,167**
			Paving and Allowance Subtotal:	**$ 1,495,002**
			Construction Contingency: 10%	$ 149,500
			Construction Cost TOTAL:	**$ 1,645,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,645,000**
Engineering/Survey/Testing:		18%	$ 296,100
Mobilization		6%	$ 98,700
Previous City contribution	2004 - Miller Rd.; Skyline Rd. to Kirby Rd.		$ 393,002
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	$ -
		Impact Fee Project Cost TOTAL:	**$ 2,433,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:	Description:	Project No.	2-E
Name:	Miller Rd. (3)		
Limits:	PGBT NBFR to 360' E. of PGBT NBFR		
Impact Fee Type:	A (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	361		
Service Area(s):	2		

This project consists of the construction of two additional lanes in the existing median of this future 6-lane major thoroughfare.

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	802	cy	$ 12.00	$ 9,627
204	6" Lime Stabilization (with Lime @ 27#/sy)	1,564	sy	$ 4.00	$ 6,257
304	10" Concrete Pavement w/ 6" Curb	1,484	sy	$ 46.00	$ 68,269
404	4" Topsoil	461	sy	$ 5.00	$ 2,306
504	4' Concrete Sidewalk	2,888	sf	$ 4.00	$ 11,552
604	Turn Lanes and Median Openings	261	sy	$ 46.00	$ 12,005
				Paving Construction Cost Subtotal:	**$ 110,016**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 6,601
√	Traffic Control	Construction Phase Traffic Control	5%	$ 5,501
√	Pavement Markings/Markers		3%	$ 3,300
	Roadway Drainage	None Anticipated	0%	$ -
	Illumination		0%	$ -
	Special Drainage Structures	None Anticipated	0%	$ -
	Water	None Anticipated	0%	$ -
	Sewer	None Anticipated	0%	$ -
√	Establish Turf / Erosion Control		3%	$ 3,300
√	Basic Landscaping		3%	$ 3,300
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 22,003**
			Paving and Allowance Subtotal:	**$ 132,020**
			Construction Contingency: 10%	$ 13,202
			Construction Cost TOTAL:	**$ 146,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 146,000**
Engineering/Survey/Testing:		18%	$ 26,280
Mobilization		6%	$ 8,760
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	$ -
		Impact Fee Project Cost TOTAL:	**$ 181,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 2-F
Name:	Miller Rd. (4) 360' E. of PGBT NBFR to Lake Ray	**This project consists of the reconstruction of Miller Rd. as a 4-lane divided secondary thoroughfare.**	
Limits:	Hubbard Bridge		
Impact Fee Type:	B+		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	1,749		
Service Area(s):	2		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	5,441	cy	$ 12.00	$ 65,296
205	6" Lime Stabilization (with Lime @ 27#/sy)	10,494	sy	$ 4.00	$ 41,976
305	8" Concrete Pavement w/ 6" Curb	9,717	sy	$ 38.00	$ 369,233
405	4" Topsoil	5,247	sy	$ 5.00	$ 26,235
505	4' Concrete Sidewalk	13,992	sf	$ 4.00	$ 55,968
605	Turn Lanes and Median Openings	1,264	sy	$ 38.00	$ 48,046
				Paving Construction Cost Subtotal:	**$ 606,755**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 36,405
√	Traffic Control	Construction Phase Traffic Control	5%	$ 30,338
√	Pavement Markings/Markers		3%	$ 18,203
√	Roadway Drainage	Standard Internal System	30%	$ 182,026
√	Illumination		6%	$ 36,405
√	Special Drainage Structures	2,975' Lake Ray Hubbard Crossing	?	?
√	Water	Minor Adjustments	6%	$ 36,405
√	Sewer	Minor Adjustments	4%	$ 24,270
√	Establish Turf / Erosion Control		3%	$ 18,203
√	Basic Landscaping		3%	$ 18,203
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 400,458**
			Paving and Allowance Subtotal:	**$ 1,007,213**
			Construction Contingency: 10%	$ 100,721
			Construction Cost TOTAL:	**$ 1,108,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,108,000**
Engineering/Survey/Testing:		18%	$ 199,440
Mobilization		6%	$ 66,480
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 166,200
		Impact Fee Project Cost TOTAL:	**$ 1,540,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 2-G
Name:	Miller Rd. (5)	**This project consists of the reconstruction of Miller Rd. as a 4-lane divided secondary thoroughfare.**	
Limits:	Lake Ray Hubbard Bridge to 372' W. of Dalrock Rd.		
Impact Fee Type:	B+		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	5,374		
Service Area(s):	2		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	16,719	cy	$ 12.00	$ 200,629
205	6" Lime Stabilization (with Lime @ 27#/sy)	32,244	sy	$ 4.00	$ 128,976
305	8" Concrete Pavement w/ 6" Curb	29,856	sy	$ 38.00	$ 1,134,511
405	4" Topsoil	16,122	sy	$ 5.00	$ 80,610
505	4' Concrete Sidewalk	42,992	sf	$ 4.00	$ 171,968
605	Turn Lanes and Median Openings	3,885	sy	$ 38.00	$ 147,628
				Paving Construction Cost Subtotal:	**$ 1,864,323**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 111,859
√	Traffic Control	Construction Phase Traffic Control	5%	$ 93,216
√	Pavement Markings/Markers		3%	$ 55,930
√	Roadway Drainage	Standard Internal System	30%	$ 559,297
√	Illumination		6%	$ 111,859
√	Special Drainage Structures	1,115' Lake Ray Hubbard Crossing	?	?
√	Water	Minor Adjustments	6%	$ 111,859
√	Sewer	Minor Adjustments	4%	$ 74,573
√	Establish Turf / Erosion Control		3%	$ 55,930
√	Basic Landscaping		3%	$ 55,930
√	Other:	Railroad Crossing	$250,000	$ 250,000
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,480,453**
			Paving and Allowance Subtotal:	**$ 3,344,776**
			Construction Contingency: 10%	$ 334,478
			Construction Cost TOTAL:	**$ 3,680,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 3,680,000**
Engineering/Survey/Testing:		18%	$ 662,400
Mobilization		6%	$ 220,800
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 552,000
		Impact Fee Project Cost TOTAL:	**$ 5,115,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No.	2-H
Name:	Chiesa Rd. (2)	**This project consists of the reconstruction of Chiesa Rd. as a 4-lane divided secondary thoroughfare.**		
Limits:	360' S. of Lakeview Pkwy. to Miller			
Impact Fee Type:	B+			
Ultimate Class:	Secondary Thoroughfare			
Length (lf):	6,600			
Service Area(s):	2			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	20,533	cy	$ 12.00	$ 246,400
205	6" Lime Stabilization (with Lime @ 27#/sy)	39,600	sy	$ 4.00	$ 158,400
305	8" Concrete Pavement w/ 6" Curb	36,667	sy	$ 38.00	$ 1,393,333
405	4" Topsoil	19,800	sy	$ 5.00	$ 99,000
505	4' Concrete Sidewalk	52,800	sf	$ 4.00	$ 211,200
605	Turn Lanes and Median Openings	4,771	sy	$ 38.00	$ 181,308
				Paving Construction Cost Subtotal:	**$ 2,289,641**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 137,378
√	Traffic Control	Construction Phase Traffic Control	5%	$ 114,482
√	Pavement Markings/Markers		3%	$ 68,689
√	Roadway Drainage	Standard Internal System	30%	$ 686,892
√	Illumination		6%	$ 137,378
√	Special Drainage Structures	Minor Stream Crossing	$250,000	$ 250,000
√	Water	Minor Adjustments	6%	$ 137,378
√	Sewer	Minor Adjustments	4%	$ 91,586
√	Establish Turf / Erosion Control		3%	$ 68,689
√	Basic Landscaping		3%	$ 68,689
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,761,163**
			Paving and Allowance Subtotal:	**$ 4,050,804**
			Construction Contingency: 10%	$ 405,080
			Construction Cost TOTAL:	**$ 4,456,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 4,456,000**
Engineering/Survey/Testing:		18%	$ 802,080
Mobilization		6%	$ 267,360
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 668,400
		Impact Fee Project Cost TOTAL:	**$ 6,194,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 2-I
Name:	Chiesa Rd. (3)	**This project consists of the reconstruction of Chiesa Rd. as a 4-lane divided secondary thoroughfare.**	
Limits:	Miller Rd. to Dalrock Rd.		
Impact Fee Type:	B+		
Ultimate Class:	Secondary Thoroughfare		
Length (lf):	6,414		
Service Area(s):	2		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
105	Unclassified Street Excavation	19,955	cy	$ 12.00	$ 239,456
205	6" Lime Stabilization (with Lime @ 27#/sy)	38,484	sy	$ 4.00	$ 153,936
305	8" Concrete Pavement w/ 6" Curb	35,633	sy	$ 38.00	$ 1,354,067
405	4" Topsoil	19,242	sy	$ 5.00	$ 96,210
505	4' Concrete Sidewalk	51,312	sf	$ 4.00	$ 205,248
605	Turn Lanes and Median Openings	4,637	sy	$ 38.00	$ 176,198
				Paving Construction Cost Subtotal:	**$ 2,225,115**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 133,507
√	Traffic Control	Construction Phase Traffic Control	5%	$ 111,256
√	Pavement Markings/Markers		3%	$ 66,753
√	Roadway Drainage	Standard Internal System	30%	$ 667,534
√	Illumination		6%	$ 133,507
√	Special Drainage Structures	Minor Stream Crossing	$150,000	$ 150,000
√	Water	Minor Adjustments	6%	$ 133,507
√	Sewer	Minor Adjustments	4%	$ 89,005
√	Establish Turf / Erosion Control		3%	$ 66,753
√	Basic Landscaping		3%	$ 66,753
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 1,618,576**

Paving and Allowance Subtotal:		**$ 3,843,690**
Construction Contingency:	10%	$ 384,369
Construction Cost TOTAL:		**$ 4,229,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 4,229,000**
Engineering/Survey/Testing:		18%	$ 761,220
Mobilization		6%	$ 253,740
Previous City contribution			
Other			
ROW/Easement Acquisition:	Existing Alignment	15%	$ 634,350
		Impact Fee Project Cost TOTAL:	**$ 5,878,000**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Rowlett.

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 2-J
Name:	Dalrock Rd. (4)	**This project consists of the construction of two additional lanes in the existing median of this future 6-lane major thoroughfare.**	
Limits:	Lakeview Pkwy. to Miller Rd.		
Impact Fee Type:	A (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	9,435		
Service Area(s):	2		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	20,967	cy	$ 12.00	$ 251,600
204	6" Lime Stabilization (with Lime @ 27#/sy)	40,885	sy	$ 4.00	$ 163,540
304	10" Concrete Pavement w/ 6" Curb	38,788	sy	$ 46.00	$ 1,784,263
404	4" Topsoil	12,056	sy	$ 5.00	$ 60,279
504	4' Concrete Sidewalk	75,480	sf	$ 4.00	$ 301,920
604	Turn Lanes and Median Openings	6,821	sy	$ 46.00	$ 313,753
				Paving Construction Cost Subtotal:	**$ 2,875,356**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 172,521
√	Traffic Control	Construction Phase Traffic Control	5%	$ 143,768
√	Pavement Markings/Markers		3%	$ 86,261
	Roadway Drainage	None Anticipated	0%	$ -
	Illumination		0%	$ -
	Special Drainage Structures	None Anticipated	0%	$ -
	Water	None Anticipated	0%	$ -
	Sewer	None Anticipated	0%	$ -
√	Establish Turf / Erosion Control		3%	$ 86,261
√	Basic Landscaping		3%	$ 86,261
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 575,071**
			Paving and Allowance Subtotal:	**$ 3,450,427**
			Construction Contingency: 10%	$ 345,043
			Construction Cost TOTAL:	**$ 3,796,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 3,796,000**
Engineering/Survey/Testing:		18%	$ 683,280
Mobilization		6%	$ 227,760
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	$ -
		Impact Fee Project Cost TOTAL:	**$ 4,707,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No.	2-K
Name:	Dalrock Rd. (5)	**This project consists of the construction of two additional lanes in the existing median of this future 6-lane major thoroughfare.**		
Limits:	Miller Rd. to S. City Limits			
Impact Fee Type:	A (1/3)			
Ultimate Class:	Major Thoroughfare			
Length (lf):	4,402			
Service Area(s):	2			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
104	Unclassified Street Excavation	9,782	cy	$ 12.00	$ 117,387
204	6" Lime Stabilization (with Lime @ 27#/sy)	19,075	sy	$ 4.00	$ 76,301
304	10" Concrete Pavement w/ 6" Curb	18,097	sy	$ 46.00	$ 832,467
404	4" Topsoil	5,625	sy	$ 5.00	$ 28,124
504	4' Concrete Sidewalk	35,216	sf	$ 4.00	$ 140,864
604	Turn Lanes and Median Openings	3,182	sy	$ 46.00	$ 146,385
				Paving Construction Cost Subtotal:	**$ 1,341,528**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 80,492
√	Traffic Control	Construction Phase Traffic Control	5%	$ 67,076
√	Pavement Markings/Markers		3%	$ 40,246
	Roadway Drainage	None Anticipated	0%	$ -
	Illumination		0%	$ -
	Special Drainage Structures	None Anticipated	0%	$ -
	Water	None Anticipated	0%	$ -
	Sewer	None Anticipated	0%	$ -
√	Establish Turf / Erosion Control		3%	$ 40,246
√	Basic Landscaping		3%	$ 40,246
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 268,306**
			Paving and Allowance Subtotal:	**$ 1,609,833**
			Construction Contingency: 10%	$ 160,983
			Construction Cost TOTAL:	**$ 1,771,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,771,000**
Engineering/Survey/Testing:		18%	$ 318,780
Mobilization		6%	$ 106,260
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	$ -
		Impact Fee Project Cost TOTAL:	**$ 2,196,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 1-T, 2-L
Name:	Lakeview Pkwy.	**This project consists of the construction of two additional lanes in the existing median of this future 6-lane major thoroughfare.**	
Limits:	Dalrock Rd. to E. City Limit		
Impact Fee Type:	A+ (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	4,225		
Service Area(s):	1, 2		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
102	Unclassified Street Excavation	9,389	cy	$ 12.00	$ 112,667
202	6" Lime Stabilization (with Lime @ 27#/sy)	18,308	sy	$ 4.00	$ 73,233
302	10" Concrete Pavement w/ 6" Curb	17,369	sy	$ 46.00	$ 798,994
402	4" Topsoil	5,399	sy	$ 5.00	$ 26,993
502	4' Concrete Sidewalk	33,800	sf	$ 4.00	$ 135,200
602	Turn Lanes and Median Openings	3,054	sy	$ 46.00	$ 140,499
				Paving Construction Cost Subtotal:	**$ 1,287,586**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 77,255
√	Traffic Control	Construction Phase Traffic Control	5%	$ 64,379
√	Pavement Markings/Markers		3%	$ 38,628
	Roadway Drainage	None Anticipated	0%	$ -
	Illumination		0%	$ -
	Special Drainage Structures	None Anticipated	0%	$ -
	Water	None Anticipated	0%	$ -
	Sewer	None Anticipated	0%	$ -
√	Establish Turf / Erosion Control		3%	$ 38,628
√	Basic Landscaping		3%	$ 38,628
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 257,517**
			Paving and Allowance Subtotal:	**$ 1,545,104**
			Construction Contingency: 10%	$ 154,510
			Construction Cost TOTAL:	**$ 1,700,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 1,700,000**
Engineering/Survey/Testing:		18%	$ 306,000
Mobilization		6%	$ 102,000
Previous City contribution			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included	0%	$ -
		Impact Fee Project Cost TOTAL:	**$ 2,108,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No.	2-M
Name:	Melcer Dr.	**This project consists of the 2-lane undivided extension of Melcer Dr.**		
Limits:	Melcer Dr. Extension			
Impact Fee Type:	D-C			
Ultimate Class:	Downtown Collector			
Length (lf):	1,052			
Service Area(s):	2			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
111	Unclassified Street Excavation	2,455	cy	$ 12.00	$ 29,456
211	6" Lime Stabilization (with Lime @ 27#/sy)	4,792	sy	$ 4.00	$ 19,170
311	8" Concrete Pavement w/ 6" Curb	4,559	sy	$ 38.00	$ 173,229
411	4" Topsoil	1,520	sy	$ 5.00	$ 7,598
511	5' Concrete Sidewalk	10,520	sf	$ 4.00	$ 42,080
611	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 271,533**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 16,292
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 8,146
√	Roadway Drainage	Standard Internal System	30%	$ 81,460
√	Illumination		6%	$ 16,292
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 16,292
√	Sewer	Minor Adjustments	4%	$ 10,861
√	Establish Turf / Erosion Control		3%	$ 8,146
√	Basic Landscaping		3%	$ 8,146
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 165,635**
			Paving and Allowance Subtotal:	**$ 437,168**
			Construction Contingency: 10%	$ 43,717
			Construction Cost TOTAL:	**$ 481,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 481,000**
Engineering/Survey/Testing:		18%	$ 86,580
Mobilization		6%	$ 28,860
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 144,300
		Impact Fee Project Cost TOTAL:	**$ 741,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No.	2-N
Name:	Martin Dr. (1)	**This project consists of the 2-lane undivided extension of Martin Dr.**		
Limits:	Coyle St. to South End			
Impact Fee Type:	D-C			
Ultimate Class:	Downtown Collector			
Length (lf):	913			
Service Area(s):	2			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
111	Unclassified Street Excavation	2,130	cy	$ 12.00	$ 25,564
211	6" Lime Stabilization (with Lime @ 27#/sy)	4,159	sy	$ 4.00	$ 16,637
311	8" Concrete Pavement w/ 6" Curb	3,956	sy	$ 38.00	$ 150,341
411	4" Topsoil	1,319	sy	$ 5.00	$ 6,594
511	5' Concrete Sidewalk	9,130	sf	$ 4.00	$ 36,520
611	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 235,655**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 14,139
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 7,070
√	Roadway Drainage	Standard Internal System	30%	$ 70,697
√	Illumination		6%	$ 14,139
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 14,139
√	Sewer	Minor Adjustments	4%	$ 9,426
√	Establish Turf / Erosion Control		3%	$ 7,070
√	Basic Landscaping		3%	$ 7,070
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 143,750**
			Paving and Allowance Subtotal:	**$ 379,405**
			Construction Contingency: 10%	$ 37,941
			Construction Cost TOTAL:	**$ 418,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 418,000**
Engineering/Survey/Testing:		18%	$ 75,240
Mobilization		6%	$ 25,080
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 125,400
		Impact Fee Project Cost TOTAL:	**$ 644,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No.	2-O
Name:	Martin Dr. (2)	**This completed project consisted of the two-lane extension of Martin Dr. This is a 2013 NCTCOG grant project. The total project cost is $2,011,747 of which Rowlett contributed $822,727.**		
Limits:	Melcer Dr. to Coyle St.			
Impact Fee Type:	C			
Ultimate Class:	Collector Thoroughfare			
Length (lf):	577			
Service Area(s):	2			

Impact Fee Project Cost Summary			
Item Description	**Notes:**	**Allowance**	**Item Cost**
City Contribution to Construction Cost:		-	**$822,727**
Engineering/Survey/Testing			
Other			
ROW/Easement Acquisition:			
	Impact Fee Project Cost TOTAL:		**$822,727**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 2-P
Name:	Rowlett Rd.	**This completed project consisted of the construction of two additional lanes in the median of Rowlett Rd. The total 2011 project cost is $7,268,244 of which Rowlett contributed $3,792,336.**	
Limits:	Century Dr. to Kyle Rd.		
Impact Fee Type:	A (1/3)		
Ultimate Class:	Major Thoroughfare		
Length (lf):	1,615		
Service Area(s):	2		

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
City Contribution to Construction Cost:		-	**$3,792,336**
Engineering/Survey/Testing			
Other			
ROW/Easement Acquisition:	No ROW Acquisition Costs included		
		Impact Fee Project Cost TOTAL:	**$3,792,336**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 2-Q
Name:	SG Collector #1	**This project consists of the construction of a new 2-lane undivided collector.**	
Limits:	SG Collector #1		
Impact Fee Type:	SG-C5		
Ultimate Class:	Signature Gateway Collector-5		
Length (lf):	1,452		
Service Area(s):	2		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	3,388	cy	$ 12.00	$ 40,656
209	6" Lime Stabilization (with Lime @ 27#/sy)	6,615	sy	$ 4.00	$ 26,459
309	8" Concrete Pavement w/ 6" Curb	6,292	sy	$ 38.00	$ 239,096
409	4" Topsoil	0	sy	$ -	$ -
509	11' Concrete Sidewalk	31,944	sf	$ 4.00	$ 127,776
609	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 433,987**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 26,039
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 13,020
√	Roadway Drainage	Standard Internal System	30%	$ 130,196
√	Illumination		6%	$ 26,039
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 26,039
√	Sewer	Minor Adjustments	4%	$ 17,359
√	Establish Turf / Erosion Control		3%	$ 13,020
√	Basic Landscaping		3%	$ 13,020
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 264,732**
			Paving and Allowance Subtotal:	**$ 698,719**
			Construction Contingency: 10%	$ 69,872
			Construction Cost TOTAL:	**$ 769,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 769,000**
Engineering/Survey/Testing:		18%	$ 138,420
Mobilization		6%	$ 46,140
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 230,700
		Impact Fee Project Cost TOTAL:	**$ 1,184,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 2-R
Name:	SG Collector #2	**This project consists of the construction of a new 2-lane undivided collector.**	
Limits:	SG Collector #2		
Impact Fee Type:	SG-C5		
Ultimate Class:	Signature Gateway Collector-5		
Length (lf):	379		
Service Area(s):	2		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	884	cy	$ 12.00	$ 10,612
209	6" Lime Stabilization (with Lime @ 27#/sy)	1,727	sy	$ 4.00	$ 6,906
309	8" Concrete Pavement w/ 6" Curb	1,642	sy	$ 38.00	$ 62,409
409	4" Topsoil	0	sy	$ -	$ -
509	11' Concrete Sidewalk	8,338	sf	$ 4.00	$ 33,352
609	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 113,279**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 6,797
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 3,398
√	Roadway Drainage	Standard Internal System	30%	$ 33,984
√	Illumination		6%	$ 6,797
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 6,797
√	Sewer	Minor Adjustments	4%	$ 4,531
√	Establish Turf / Erosion Control		3%	$ 3,398
√	Basic Landscaping		3%	$ 3,398
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 69,100**
			Paving and Allowance Subtotal:	**$ 182,379**
			Construction Contingency: 10%	$ 18,238
			Construction Cost TOTAL:	**$ 201,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 201,000**
Engineering/Survey/Testing:		18%	$ 36,180
Mobilization		6%	$ 12,060
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 60,300
		Impact Fee Project Cost TOTAL:	**$ 310,000**

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No.	2-S
Name:	SG Collector #3	**This project consists of the construction of a new 2-lane undivided collector.**		
Limits:	SG Collector #3			
Impact Fee Type:	SG-C5			
Ultimate Class:	Signature Gateway Collector-5			
Length (lf):	854			
Service Area(s):	2			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
109	Unclassified Street Excavation	1,993	cy	$ 12.00	$ 23,912
209	6" Lime Stabilization (with Lime @ 27#/sy)	3,890	sy	$ 4.00	$ 15,562
309	8" Concrete Pavement w/ 6" Curb	3,701	sy	$ 38.00	$ 140,625
409	4" Topsoil	0	sy	$ -	$ -
509	11' Concrete Sidewalk	18,788	sf	$ 4.00	$ 75,152
609	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 255,251**

Major Construction Component Allowances:**

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 15,315
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 7,658
√	Roadway Drainage	Standard Internal System	30%	$ 76,575
√	Illumination		6%	$ 15,315
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 15,315
√	Sewer	Minor Adjustments	4%	$ 10,210
√	Establish Turf / Erosion Control		3%	$ 7,658
√	Basic Landscaping		3%	$ 7,658
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 155,703**
			Paving and Allowance Subtotal:	**$ 410,954**
			Construction Contingency: 10%	$ 41,095
			Construction Cost TOTAL:	**$ 453,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 453,000**
Engineering/Survey/Testing:		18%	$ 81,540
Mobilization		6%	$ 27,180
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 135,900
		Impact Fee Project Cost TOTAL:	**$ 698,000**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Rowlett.

The planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 2-T
Name:	SG Collector #4	**This project consists of the construction of a new 2-lane undivided collector.**	
Limits:	SG Collector #4		
Impact Fee Type:	SG-C4		
Ultimate Class:	Signature Gateway Collector-4		
Length (lf):	890		
Service Area(s):	2		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
108	Unclassified Street Excavation	2,472	cy	$ 12.00	$ 29,667
208	6" Lime Stabilization (with Lime @ 27#/sy)	4,846	sy	$ 4.00	$ 19,382
308	8" Concrete Pavement w/ 6" Curb	4,648	sy	$ 38.00	$ 176,616
408	4" Topsoil	1,236	sy	$ 5.00	$ 6,181
508	No sidewalk in ROW	0	sf	$ -	$ -
608	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 231,845**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 13,911
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 6,955
√	Roadway Drainage	Standard Internal System	30%	$ 69,554
√	Illumination		6%	$ 13,911
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 13,911
√	Sewer	Minor Adjustments	4%	$ 9,274
√	Establish Turf / Erosion Control		3%	$ 6,955
√	Basic Landscaping		3%	$ 6,955
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 141,425**
			Paving and Allowance Subtotal:	**$ 373,270**
			Construction Contingency: 10%	$ 37,327
			Construction Cost TOTAL:	**$ 411,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 411,000**
Engineering/Survey/Testing:		18%	$ 73,980
Mobilization		6%	$ 24,660
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 123,300
		Impact Fee Project Cost TOTAL:	**$ 633,000**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Rowlett.

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City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No.	2-U
Name:	SG Major Thoroughfare	**This project consists of the construction of a new 2-lane divided major thoroughfare.**		
Limits:	SG Major Thoroughfare			
Impact Fee Type:	SG-A+			
Ultimate Class:	Signature Gateway Major Thoroughfare			
Length (lf):	464			
Service Area(s):	2			

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
110	Unclassified Street Excavation	1,495	cy	$ 12.00	$ 17,941
210	6" Lime Stabilization (with Lime @ 27#/sy)	2,887	sy	$ 4.00	$ 11,548
310	8" Concrete Pavement w/ 6" Curb	2,681	sy	$ 38.00	$ 101,874
410	4" Topsoil	2,990	sy	$ 5.00	$ 14,951
510	5' Concrete Sidewalk	4,640	sf	$ 4.00	$ 18,560
610	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 164,875**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 9,892
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 4,946
√	Roadway Drainage	Standard Internal System	30%	$ 49,462
√	Illumination		6%	$ 9,892
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 9,892
√	Sewer	Minor Adjustments	4%	$ 6,595
√	Establish Turf / Erosion Control		3%	$ 4,946
√	Basic Landscaping		3%	$ 4,946
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 100,574**
			Paving and Allowance Subtotal:	**$ 265,448**
			Construction Contingency: 10%	$ 26,545
			Construction Cost TOTAL:	**$ 292,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 292,000**
Engineering/Survey/Testing:		18%	$ 52,560
Mobilization		6%	$ 17,520
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 87,600
		Impact Fee Project Cost TOTAL:	**$ 450,000**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Rowlett.

The planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

City of Rowlett

2013 Roadway Impact Fee Study

Conceptual Level Project Cost Projection

Kimley-Horn and Associates, Inc.

updated: 9/25/2013

Project Information:		Description:	Project No. 2-V
Name:	HL Collector #3	**This project consists of the construction of a new 2-lane undivided collector.**	
Limits:	HL Collector #3		
Impact Fee Type:	HL-C1		
Ultimate Class:	Healthy Living Collector-1		
Length (lf):	700		
Service Area(s):	2		

Roadway Construction Cost Projection

No.	Item Description	Quantity	Unit	Unit Price	Item Cost
112	Unclassified Street Excavation	2,022	cy	$ 12.00	$ 24,267
212	6" Lime Stabilization (with Lime @ 27#/sy)	3,967	sy	$ 4.00	$ 15,867
312	8" Concrete Pavement w/ 6" Curb	3,811	sy	$ 38.00	$ 144,822
412	4" Topsoil	0	sy	$ -	$ -
512	11' Concrete Sidewalk	7,700	sf	$ 4.00	$ 30,800
612	Turn Lanes and Median Openings	0	sy	$ -	$ -
				Paving Construction Cost Subtotal:	**$ 215,756**

Major Construction Component Allowances**:

	Item Description	Notes	Allowance	Item Cost
√	Prep ROW		6%	$ 12,945
	Traffic Control	None Anticipated	0%	$ -
√	Pavement Markings/Markers		3%	$ 6,473
√	Roadway Drainage	Standard Internal System	30%	$ 64,727
√	Illumination		6%	$ 12,945
	Special Drainage Structures	None Anticipated	0%	$ -
√	Water	Minor Adjustments	6%	$ 12,945
√	Sewer	Minor Adjustments	4%	$ 8,630
√	Establish Turf / Erosion Control		3%	$ 6,473
√	Basic Landscaping		3%	$ 6,473
	Other:		$0	$ -
**Allowances based on % of Paving Construction Cost Subtotal			**Allowance Subtotal:**	**$ 131,611**
			Paving and Allowance Subtotal:	**$ 347,366**
			Construction Contingency: 10%	$ 34,737
			Construction Cost TOTAL:	**$ 383,000**

Impact Fee Project Cost Summary

Item Description	Notes:	Allowance	Item Cost
Construction:		-	**$ 383,000**
Engineering/Survey/Testing:		18%	$ 68,940
Mobilization		6%	$ 22,980
Previous City contribution			
Other			
ROW/Easement Acquisition:	New Roadway Alignment	30%	$ 114,900
		Impact Fee Project Cost TOTAL:	**$ 590,000**

NOTE: The planning level cost projections listed in this appendix have been developed for Impact Fee calculations only and should not be used for any future Capital Improvement Planning within the City of Rowlett.

The planning level cost projections shall not supersede the City's design standards or the determination of the City Engineer for a specific project.

Kimley-Horn and Associates, Inc.

Rowlett TEXAS

Appendix B – CIP Service Units of Supply

City of Rowlett - 2013 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area 1

9/25/2013

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL	VEH-MI TOTAL DEMAND PK-HR	EXCESS CAPACITY PK-HR VEH-MI	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
1-A	Castle Dr.	Miles Rd. to Merritt Rd.	0.51	4	B	342	100%	625	1263	173	1,090	$ 2,185,000	$ 2,185,000
1-B	Hickox Rd. (1)	Rowlett Rd. to 235' NE. of Toler Rd.	0.59	4	B, B+	389	100%	625	1472	229	1243.06439	$ 2,737,012.00	$ 2,737,012.00
1-C	Hickox Rd. (2)	235' NE. of Toler Rd. to Merritt Rd.	0.76	4	B+	132	100%	700	2126	100	2,026	$ 3,531,000	$ 3,531,000
1-D	Merritt Rd.	N. City Limit to 860' SE. of Future Liberty Grove-Merritt Connector	1.52	4	B	312	100%	625	3811	475	3,336	$ 2,926,087	$ 2,926,087
1-E	Liberty Grove-Merritt Connector (1)	PGBT NBFR to 805' E. of PGBT NBFR	0.15	6	A	0	100%	700	642	0	642	$ 1,204,000	$ 1,204,000
1-F	Liberty Grove-Merritt Connector (2)	805' E. of PGBT NBFR to Liberty Grove Rd.	0.49	4	B	0	100%	625	1215	0	1,215	$ 3,106,000	$ 3,106,000
1-G	Liberty Grove Rd. (1)	Rosebud Dr. to PGBT SBFR	0.67	4	B	86	100%	625	1681	58	1,623	$ 2,908,000	$ 2,908,000
1-H	Liberty Grove Rd. (2)	PGBT NBFR to Merritt Rd.	0.16	4	B	1,375	100%	625	388	213	175	$ 671,000	$ 671,000
1-I	Liberty Grove Rd. (3)	Merritt Rd. to Chiesa Rd.	0.95	4	B	1,375	100%	625	2363	1,299	1,064	$ 4,852,000	$ 4,852,000
1-J	Liberty Grove Rd. (4)	Chiesa Rd. to Princeton Rd.	0.28	4	B	1,375	100%	625	706	388	318	$ 365,293	$ 365,293
1-K	Liberty Grove Rd. (5)	Broadmoor Ln. to Elm Grove Rd.	0.84	4	B	1,283	100%	625	2102	1,079	1,023	$ 3,867,000	$ 3,867,000
1-L	Elm Grove Rd.	N. City Limit to Liberty Grove Rd.	1.08	4	B	779	100%	625	2691	839	1,852	$ 4,655,000	$ 4,655,000
1-M	Dalrock Rd. (1)	Liberty Grove Rd. to 770' SE. of Lake North Rd.	0.46	4	B+	304	100%	700	1278	139	1,139	$ 2,505,000	$ 2,505,000
1-N	Dalrock Rd. (2)	105' NE. of Pecan Ln. to Princeton Rd.	1.45	4	B+	469	100%	700	4064	681	3,383	$ 7,131,000	$ 7,131,000
1-O	Dalrock Rd. (3)	Princeton Rd. to Lakeview Pkwy.	0.36	6	A (1/3)	855	100%	700	1520	309	1,211	$ 954,000	$ 954,000
1-P	Princeton Rd.	Existing Princeton Rd. to Liberty Grove Rd.	0.19	2	C	2,046	100%	500	187	383	-196	$ 675,000	$ 675,000
1-Q	Chiesa Rd. (1)	Liberty Grove Rd. to Danridge Rd.	1.40	4	B	431	100%	625	3494	602	2,892	$ 6,044,000	$ 6,044,000
1-R	Danridge Rd.	Maplewood Dr. to Traveler's Crossing	0.25	2	C	769	100%	500	250	192	58	$ 902,000	$ 902,000
1-S	Freedom Ln.	Big A. Rd. to Lakeview Pkwy.	0.15	2	C	0	100%	500	148	0	148	$ 533,000	$ 533,000
1-T, 2-L	Lakeview Pkwy.	Dalrock Rd. to E. City Limit	0.80	6	A+ (1/3)	2,799	50%	700	1680	1,120	560	$ 2,108,000	$ 1,054,000
1-U	HL Collector #1	HL Collector #1	0.22	2	HL-C3		100%	425	187	0	187	$ 830,000	$ 830,000
1-V	HL Collector #2	HL Collector #2					100%			0		$ 947,000	$ 947,000
1		Dalrock Rd. at Lakeview Pkwy.					50%			0		$ 1,250,000	$ 625,000
2		Liberty Grove Rd. at Chiesa Rd.					100%			0		$ 250,000	$ 250,000
3		Princeton Rd. at Liberty Grove Rd.					100%			0		$ 250,000	$ 250,000
4		Merritt Rd. at Hickox Rd.					100%			0		$ 250,000	$ 250,000
5		Merritt Rd. at Castle Dr.					100%			0		$ 250,000	$ 250,000
6		Merritt Rd. at Liberty Grove Rd.					100%			0		$ 450,000	$ 450,000
7		Merritt Rd. at PGBT					100%			0		$ 250,000	$ 250,000
SUBTOTAL									**33,268**	**8,279**	**24,989**	**$ 58,586,392**	**$ 56,907,392**

2013 Roadway Impact Fee Study Cost Per Service Area $ 22,500

TOTAL COST IN SERVICE AREA 1 $ 56,929,892

EXHIBIT A

City of Rowlett - 2013 Roadway Impact Fee Study

CIP Service Units of Supply

Service Area 2

9/25/2013

Project ID #	ROADWAY	LIMITS	LENGTH (MI)	LANES	IMPACT FEE CLASSIFICATION	PEAK HOUR VOLUME	% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN	VEH-MI SUPPLY PK-HR TOTAL	VEH-MI TOTAL DEMAND PK-HR	EXCESS CAPACITY PK-HR VEH-MI	TOTAL PROJECT COST	TOTAL PROJECT COST IN SERVICE AREA
2-A	Main St.	Lakeview Pkwy. to 310' W. of Rowlett Rd.	0.58	4	B	445	100%	625	1,448	258	1,190	$ 5,181,000	$ 5,181,000
2-B	Future Main-Century Connection	Main St. to Century Dr.	0.11	4	B	0	100%	625	278	0	278	$ 942,000	$ 942,000
2-C	Miller Rd. (1)	Dexham Rd. to Rowlett Rd.	1.02	6	A (1/3)	1,298	100%	700	4,276	1,322	2,954	$ 5,128,000	$ 5,128,000
2-D	Miller Rd. (2)	Rowlett Rd. to PGBT SBFR	0.77	6	A (1/3)	1,298	100%	700	3,252	1,005	2,247	$ 2,433,000	$ 2,433,000
2-E	Miller Rd. (3)	PGBT NBFR to 360' E. of PGBT NBFR	0.07	6	A (1/3)	1,298	100%	700	287	89	198	$ 181,000	$ 181,000
2-F	Miller Rd. (4)	360' E. of PGBT NBFR to Lake Ray Hubbard Bridge	0.33	6	A	1,190	100%	700	1,391	394	997	$ 1,540,000	$ 1,540,000
2-G	Miller Rd. (5)	Lake Ray Hubbard Bridge to 372' W. of Dalrock Rd.	1.02	6	A	1,145	100%	700	4,275	1,166	3,109	$ 5,115,000	$ 5,115,000
2-H	Chiesa Rd. (2)	360' S. of Lakeview Pkwy. to Miller Rd.	1.25	4	B+	1,099	100%	700	3,500	1,374	2,126	$ 6,194,000	$ 6,194,000
2-I	Chiesa Rd. (3)	Miller Rd. to Dalrock Rd.	1.21	4	B+	1,099	100%	700	3,401	1,335	2,066	$ 5,878,000	$ 5,878,000
2-J	Dalrock Rd. (4)	Lakeview Pkwy. to Miller Rd.	1.79	6	A (1/3)	2,306	100%	700	7,505	4,121	3,384	$ 4,707,000	$ 4,707,000
2-K	Dalrock Rd. (5)	Miller Rd. to S. City Limits	0.83	6	A (1/3)	3,024	100%	700	3,502	2,521	981	$ 2,196,000	$ 2,196,000
1-T, 2-L	Lakeview Pkwy.	Dalrock Rd. to E. City Limit	0.80	6	A+ (1/3)	331	50%	700	1,680	132	1,548	$ 2,108,000	$ 1,054,000
2-M	Melcer Dr.	Melcer Dr. Extension	0.20	2	D-C	0	100%	425	169	0	169	$ 741,000	$ 741,000
2-N	Martin Dr. (1)	Coyle St. to South End	0.17	2	D-C	0	100%	425	147	0	147	$ 644,000	$ 644,000
2-O	Martin Dr. (2)	Melcer Dr. to Coyle St.	0.11	2	C	0	100%	500	109	0	109	$ 822,727	$ 822,727
2-P	Rowlett Rd.	Century Dr. to Kyle Rd.	0.31	6	A (1/3)	2,190	100%	700	1,285	670	615	$ 3,792,336	$ 3,792,336
2-Q	SG Collector #1	SG Collector #1	0.28	2	SG-C5		100%	425	234	0	234	$ 1,184,000	$ 1,184,000
2-R	SG Collector #2	SG Collector #2	0.07	2	SG-C5		100%	425	61	0	61	$ 310,000	$ 310,000
2-S	SG Collector #3	SG Collector #3	0.16	2	SG-C5		100%	425	137	0	137	$ 698,000	$ 698,000
2-T	SG Collector #4	SG Collector #4	0.17	2	SG-C4		100%	425	143	0	143	$ 633,000	$ 633,000
2-U	SG Major Thoroughfare	SG Major Thoroughfare	0.09	2	SG-A+		100%	425	75	0	75	$ 450,000	$ 450,000
2-V	HL Collector #3	HL Collector #3	0.13	2	HL-C1		100%	425	113	0	113	$ 590,000	$ 590,000
1	Intersection Improvement	Dalrock Rd. at Lakeview Pkwy.					50%					$ 1,250,000	$ 625,000
2	Intersection Improvement	Dalrock Rd. at Chiesa Rd.					100%					$ 750,000	$ 750,000
3	Signal Installation	Dexham Rd. at Miller Rd.					100%					$ 250,000	$ 250,000
SUBTOTAL									**37,269**	**14,387**	**22,882**	**$ 53,718,063**	**$ 52,039,063**

2013 Roadway Impact Fee Study Cost Per Service Area $ 22,500

TOTAL COST IN SERVICE AREA 2 $ 52,061,563

Kimley-Horn and Associates, Inc.

Rowlett TEXAS

Appendix C – Existing Roadway Facilities Inventory

EXHIBIT A

City of Rowlett - 2013 Roadway Impact Fee Study
Existing Roadway Facilities Inventory

Service Area 1

9/25/2013

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL		VEH-MI DEMAND PK-HR TOTAL		EXCESS CAPACITY PK-HR VEH-MI		EXISTING DEFICIENCIES PK-HR VEH-MI	
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Castle Dr./Dexham Rd.	Lakeview Pkwy.	395' N. of Hickox Rd.	5,185	0.98	2	2	4D	B+	4D	287	273	100%	650	650	1,277	1,277	281	268	995	1,008		
Castle Dr.	Miles Rd.	Merritt Rd.	2,670	0.51	1	1	2U-A	B	4U	190	152	100%	450	450	228	228	96	77	131	151		
Hickox Rd.	Castle Dr.	Bluebell Dr.	4,205	0.80	2	2	4D	B+	4D	198	191	100%	650	650	1,035	1,035	158	152	878	883		
Hickox Rd.	Bluebell Dr.	Bluebonnet Dr.	1,225	0.23	2	2	4U	B	4U	198	191	100%	500	500	232	232	46	44	186	188		
Hickox Rd.	Bluebonnet Dr.	235' NE. of Toler Rd.	1,360	0.26	1	1	4D	B+	4D	99	94	100%	650	650	167	167	26	24	142	143		
Hickox Rd.	235' NE. of Toler Rd.	Merritt Rd.	4,010	0.76	1	1	2U-A	B+	4D	69	64	100%	450	450	342	342	52	48	290	293		
Big A Rd.	Rowlett Rd.	End of Road	3,060	0.58	1	1	2U-A	C	2U	138	134	100%	450	450	261	261	80	78	181	183		
Rowlett Rd.	Castle Dr.	Lakeview Pkwy.	9,660	1.83	3	3	6D	A	6D	1,196	1,413	100%	700	700	3,842	3,842	2,187	2,585	1,655	1,257		
Merritt Rd.	N. City Limit	260' NW. of Castle Dr.	2,495	0.47	2	2	4D	B	4U	132	161	100%	650	650	614	614	62	76	552	538		
Merritt Rd.	260' NW. of Castle Dr.	Future Liberty Grove-Merritt Connector	4,695	0.89	1	1	2U-A	B	4U	129	183	100%	450	450	400	400	115	162	285	238		
Merritt Rd.	Future Liberty Grove-Merritt Connector	860' SE. of Future Liberty Grove-Merritt Cor	860	0.16	1	1	2U-A	B	4U	129	183	100%	450	450	73	73	21	30	52	44		
Merritt Rd.	860' SE. of Future Liberty Grove-Merritt C	PGBT SBFR	1,695	0.32	1	1	2U-A	C	2U	129	183	100%	450	450	144	144	41	59	103	86		
Merritt Rd.	PGBT NBFR	Liberty Grove Rd.	945	0.18	1	1	2U-A	C	2U	314	14	100%	450	450	81	81	56	3	24	78		
Liberty Grove Rd.	Rosebud Dr.	PGBT SBFR	3,550	0.67	1	1	2U-A	B	4U	32	54	100%	450	450	303	303	21	36	281	266		
Liberty Grove Rd.	PGBT SBFR	PGBT NBFR	305	0.06	2	2	4U	B	4U	789	169	100%	500	500	58	58	46	10	12	48		
Liberty Grove Rd.	PGBT NBFR	Muddy Creek	2,215	0.42	1	1	2U-A	B	4U	690	685	100%	450	450	189	189	290	287	-101	-98	101	98
Lakeview Pkwy.	W. City Limit	E. City Limit	14,390	2.73	3	3	6D	A+	6D	1,755	1,670	50%	700	700	2,862	2,862	2,392	2,276	470	586		
Vinson Rd.	Elm Grove Rd.	N. City Limit	2,725	0.52	1	1	2U-A	C	2U	90	127	100%	450	450	232	232	46	66	186	166		
Elm Grove Rd.	N. City Limit	Vinson Rd.	255	0.05	1	1	2U-A	B	4U	155	149	100%	450	450	22	22	7	7	14	15		
Elm Grove Rd.	Vinson Rd.	695' NW. of Yeager Rd.	1,095	0.21	1	1	2U-A	B	4U	155	149	100%	450	450	93	93	32	31	61	62		
Elm Grove Rd.	695' NW. of Yeager Rd.	Liberty Grove Rd.	4,210	0.80	1	1	2U-A	B	4U	133	147	100%	450	450	359	359	106	117	253	241		
Waterview Pkwy.	Liberty Grove Rd.	Elm Grove Rd.	7,465	1.41	1	1	2U-CG	C	2U	547	654	100%	500	500	707	707	774	925	-67	-218	67	218
Princeton Rd.	Raney Rd.	Old Princeton Rd.	4,675	0.89	1	1	2U-A	C	2U	75	75	100%	450	450	398	398	66	66	332	332		
Liberty Grove Rd.	Muddy Creek	Chiesa Rd.	2,880	0.55	1	1	2U-A	B	4U	690	685	100%	450	450	245	245	376	373	-131	-128	131	128
Liberty Grove Rd.	Chiesa Rd.	Broadmoor Ln.	4,290	0.81	2	2	4D	B	4U	615	668	100%	650	650	1,056	1,056	500	543	557	514		
Liberty Grove Rd.	Broadmoor Ln.	Bent Tree Dr.	2,080	0.39	1	1	2U-A	B	4U	390	390	100%	450	450	177	177	154	153	24	24		
Liberty Grove Rd.	Bent Tree Dr.	Liberty Grove Elem. School	185	0.04	1	1	3U	B	4U	390	390	100%	550	550	19	19	14	14	6	6		
Liberty Grove Rd.	Liberty Grove Elem. School	280' NE. of Esquire Ln.	675	0.13	1	1	3U	B	4U	390	390	100%	550	550	70	70	50	50	20	21		
Liberty Grove Rd.	280' NE. of Esquire Ln.	Elm Grove Rd.	1,500	0.28	1	1	2U-A	B	4U	390	390	100%	450	450	128	128	111	111	17	17		
Chiesa Rd.	Liberty Grove Rd.	Danridge Rd.	7,380	1.40	1	1	2U-A	B	4U	204	227	100%	450	450	629	629	285	318	344	311		
Chiesa Rd.	Danridge Rd.	Lakeview Pkwy.	2,310	0.44	2	2	4D	A	6D	373	396	100%	650	650	569	569	163	173	406	395		
Dalrock Rd.	Liberty Grove Rd.	770' SE. of Lake North Rd.	2,260	0.43	1	1	2U-A	B+	4D	246	223	100%	450	450	193	193	105	95	87	97		
Dalrock Rd.	105' NE. of Pecan Ln.	Princeton Rd.	7,663	1.45	1	1	2U-A	B+	4D	443	412	100%	450	450	653	653	643	597	10	56		
Dalrock Rd.	Princeton Rd.	Lakeview Pkwy.	1,910	0.36	2	2	4D	A	6D	1,003	1,044	100%	650	650	470	470	363	378	108	93		
Lakeview Pkwy.	W. City Limit	Dalrock Rd.	7,025	1.33	3	3	6D	A+	6D	1,526	1,275	50%	700	700	1,397	1,397	1,082	848	315	549		
Lakeview Pkwy.	Dalrock Rd.	E. City Limit	4,225	0.80	2	2	4D	A+	6D	1,446	1,353	50%	650	650	520	520	579	541	-58	-21	58	21
Scenic Dr.	Mallard Reserve Dr.	Lakeview Pkwy.	855	0.16	1	1	2U-CG	C	2U	50	50	100%	500	500	81	81	8	8	73	73		
SUBTOTAL			129,186	24.26											20,127	20,127	11,433	11,631	8,694	8,496	357	465
															40,253		23,064		17,189		822	

City of Rowlett - 2013 Roadway Impact Fee Study
Existing Roadway Facilities Inventory

Service Area 2

9/25/2013

ROADWAY	FROM	TO	LENGTH (ft)	LENGTH (mi)	EXIST LANES		EXIST LANES	CLASS	FUTURE LANES	PM PEAK HOUR VOL		% IN SERVICE AREA	VEH-MI CAPACITY PK-HR PER LN		VEH-MI SUPPLY PK-HR TOTAL		VEH-MI DEMAND PK-HR TOTAL		EXCESS CAPACITY PK-HR VEH-MI		EXISTING DEFICIENCIES PK-HR VEH-MI	
					NB/EB	SB/WB				NB/EB	SB/WB		NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB	NB/EB	SB/WB
Lakeview Pkwy.	W. City Limit	Dalrock Rd.	7,025	1.33	3	3	6D	A+	6D	1,626	1,275	50%	700	700	1,397	1,397	1,082	848	315	549		
Lakeview Pkwy.	Dalrock Rd.	E. City Limit	4,375	0.83	2	2	4D	A+	6D	1,446	1,353	50%	650	650	539	539	599	561	-61	-22	61	22
Schrade Rd.	Chiesa Rd.	Dalrock Rd.	4,080	0.77	1	1	2U-A	C	2U	127	96	100%	450	450	348	348	98	74	249	274		
Miller Rd.	Lake Ray Hubbard Bridge	370' W. of Dalrock Rd.	6,415	1.21	1	1	2U-A	A	6D	580	586	100%	450	450	547	547	704	687	-158	-140	158	140
Miller Rd.	370' W. of Dalrock Rd.	Dalrock Rd.	370	0.07	2	2	4D	A	6D	235	303	100%	650	650	91	91	16	21	75	70		
Garner Rd.	W. City Limit	Stanford St.	2,555	0.48	1	1	2U-A	C	2U	75	75	100%	450	450	218	218	36	36	181	181		
Garner Rd.	Chiesa Rd.	170' W. of Randi Rd.	2,275	0.43	1	1	2U-A	C	2U	75	75	100%	450	450	194	194	32	32	162	162		
Garner Rd.	170' W. of Randi Rd.	Dalrock Rd.	1,420	0.27	1	1	2U-CG	C	2U	75	75	100%	500	500	134	134	20	20	114	114		
Chiesa Rd.	Lakeview Pkwy.	Dalrock Rd.	13,375	2.53	1	1	2U-A	A	6D	461	638	100%	450	450	1,140	1,140	1,167	1,617	-27	-477	27	477
Dalrock Rd.	Lakeview Pkwy.	590' S. of Chiesa Rd.	13,835	2.62	2	2	4D	A	6D	1,128	1,178	100%	650	650	3,406	3,406	2,957	3,086	450	321		
Dalrock Rd.	590' S. of Chiesa Rd.	I-30 WBFR	760	0.14	2	2	4D	A	6D	1,536	1,489	50%	650	650	94	94	111	107	-17	-14	17	14
Scenic Dr.	Lakeview Pkwy.	200' S. of Pollard St.	2,175	0.41	2	2	4D	C	2U	163	168	100%	650	650	536	536	67	69	469	466		
Scenic Dr.	200' S. of Pollard St.	Woodlake Dr.	2,320	0.44	1	1	2U-CG	C	2U	101	100	100%	500	500	220	220	44	44	175	176		
Lakeview Pkwy.	W. City Limit	E. City Limit	14,390	2.73	3	3	6D	A+	6D	1,755	1,670	50%	700	700	2,862	2,862	2,392	2,276	470	586		
Industrial St.	725' W. of Martin Dr.	PGBT SBFR	3,010	0.57	1	1	2U-CG	C	2U	75	75	100%	500	500	285	285	43	43	242	242		
Melcer Dr.	Rowlett Rd.	Martin Dr.	1,575	0.30	1	1	2U-CG	C	2U	75	75	100%	500	500	149	149	22	22	127	127		
Main St.	Lakeview Pkwy.	310' W. of Rowlett Rd.	3,060	0.58	1	1	2U-A	B	4U	282	164	100%	450	450	261	261	163	95	98	168		
Main St.	310' W. of Rowlett Rd.	Rowlett Rd.	310	0.06	2	2	4U	B	4U	282	164	100%	500	500	59	59	17	10	42	49		
Main St.	Rowlett Rd.	280' W. of Commerce St.	645	0.12	1	1	2U-CG	B1	2D	282	164	100%	500	500	61	61	34	20	27	41		
Main St.	280' W. of Commerce St.	Ponder St.	720	0.14	1	1	2U-CG	B1	2D	282	164	100%	500	500	68	68	38	22	30	46		
Main St.	Ponder St.	Skyline Dr.	700	0.13	1	1	2U-CG	B1	2D	282	164	100%	500	500	66	66	37	22	29	45		
Main St.	Skyline Dr.	530' E. of Skyline Dr.	530	0.10	1	1	3U	B2	3U	282	164	100%	550	550	55	55	28	16	27	39		
Main St.	530' E. of Skyline Dr.	PGBT SBFR	1,360	0.26	1	1	2U-A	B2	3U	230	195	100%	450	450	116	116	59	50	57	66		
Main St.	PGBT SBFR	1,090' E. of PGBT	1,490	0.28	2	2	4U	C	2U	230	195	100%	500	500	282	282	65	55	217	227		
Main St.	1,090' E. of PGBT	E. City Limit	1,365	0.26	1	1	2U-CG	C	2U	230	195	100%	500	500	129	129	60	50	70	79		
Miller Rd.	Dexham Rd.	360' E. of PGBT NBFR	10,120	1.92	2	2	4D	A	6D	635	664	100%	650	650	2,492	2,492	1,216	1,272	1,276	1,220		
Miller Rd.	360' E. of PGBT NBFR	E. City Limit	4,240	0.80	1	1	2U-A	A	6D	682	509	100%	450	450	361	361	547	409	-186	-47	186	47
Chaha Rd.	Rowlett Rd.	Chaha Rd.	2,350	0.45	1	1	2U-A	C	2U	148	213	100%	450	450	200	200	66	95	134	106		
Kirby Rd.	Chaha Rd.	PGBT SBFR	2,490	0.47	1	1	2U-A	C	2U	72	142	100%	450	450	212	212	34	67	178	145		
Dexham Rd.	Lakeview Pkwy.	Miller Rd.	5,710	1.08	1	1	2U-A	C	2U	227	184	100%	450	450	487	487	246	199	241	287		
Martin Dr.	Lakeview Pkwy.	Coyle St.	1,565	0.30	1	1	2U-CG	C	2U	75	75	100%	500	500	148	148	22	22	126	126		
Skyline Rd.	Main St.	Miller Rd.	3,410	0.65	1	1	2U-CG	B	4U	75	75	100%	500	500	323	323	48	48	274	274		
Rowlett Rd.	Lakeview Pkwy.	Miller Rd.	4,935	0.93	3	3	6D	A	6D	1,178	1,012	100%	700	700	1,963	1,963	1,101	946	862	1,017		
Rowlett Rd.	Miller Rd.	S. City Limit	10,205	1.93	2	2	4D	B+	4D	1,033	972	100%	650	650	2,513	2,513	1,996	1,879	516	633		
SUBTOTAL			**135,160**	**25.60**											**21,954**	**21,954**	**15,170**	**14,822**	**6,784**	**7,133**	**449**	**700**
															43,908		**29,992**		**13,917**		**1,149**	

Kimley-Horn and Associates, Inc.

Rowlett TEXAS

Appendix D – Land Use Assumptions

EXHIBIT A

Jeff Whitacre, P.E., AICP
Kimley- Horn
801 Cherry Street,
Suite 950,
Fort Worth, TX 76102

RE: Rowlett Impact Fee Updates

Mr. Whitacre,

In order to facilitate the updating of the City or Rowlett Impact fees, the City has prepared the following land use assumption information for Kimley-Horn.

As requested we have provided:

- Current population in terms of persons and household,
- 10 year population growth in terms of persons and household,
- Final build out projections in terms of persons and household,
- Ten year growth for retail, basic, and service employment in square feet, and
- Total building out of retail, basic, and service employment in square feet.

Population

Population projection information was recently included in the Realize Rowlett Downtown report prepared by Ricker|Cunningham. Their projection is based on the comprehensive plan and potential build-out given market realities. The existing population data was pulled from the 2010 US census. Single family building permits issued since the census were used to estimate the current population and number of households. Please see Table 1 below.

Table 1 – Current and Projected Population Data

	2010 Census Population	**Existing population (Feb. 2013)[1]**	**Projected 2023 Population[2]**	**Build-Out Projection**
Households	18,371	18,513	22,310	28,600
Persons	56,199	56,633	65,366	85,800

[1]*Based on 2010 census, permits issued for single family homes since 2010, and average 2010 Rowlett household size*

[2]*Based on Downtown Report by Ricker|Cunningham*

As a note to the projected 2023 household population data, approximately 1,128 single family ownership units have either been platted or received zoning to date. These projects are all projected for

completion within the next ten years. This is approximately 1/3 of the ten year projected household growth that is already in the development process.

Employment

Employment growth is another key factor in determining traffic and impact fees. The Downtown Report by Ricker|Cunningham included market analysis of Rowlett in regards to the trade area and presented growth in various fields by square feet. The report provided Rowlett capture numbers for the trade area. Unfortunately, no accurate data for existing square footage was found. As such, these numbers were omitted. Only the ten year growth and final projection numbers are presented here. Attachment A is the letter provided by Ricker|Cunningham further explaining the methodology behind the final build-out employment numbers. Rowlett has used scenario 1 as presented in the letter. Please see Table 2 below.

Table 2 – Employment Growth Projections

	2023 Projected Increase Employment (sq ft)[1]	**Total Build-Out Employment (sq ft)[2]**
Retail	+930,000	7,109,520
Service	+450,000	1,777,380
Basic	+650,000	2,539,800

[1]From Ricker|Cunningham Downtown Report for Rowlett

[2]Based on Realize Rowlett 2020 trade area estimates by Ricker|Cunningham, 25 percent Rowlett capture.

Location of Growth

The location of growth is also important for calculating impact fees. Attachment B is the map of 10 year projected growth and Attachment C is the map showing final build out. These maps were informed by the Realize Rowlett 2020 Plan, current projects and development inquires. From the maps it is clear that most new growth will be in service area 1, along PGBT. Apart from this large area there is opportunity for smaller projects, included infill and redevelopment projects throughout the City of Rowlett.

Please let us know if additional information is needed and we will be happy to provide it. We can also provide GIS shapefiles of the projected growth if that would be helpful.

Regards,

Michele Berry

Planner II

Ricker | Cunningham
Creating partnerships. Building communities.

12 February 2013

Ms. Michelle Berry
Planner I
Department of Public Works / Planning Division
City of Rowlett
4000 Main Street
Rowlett, TX 750303-0099

Dear Ms. Berry:

On behalf of RickerICunningham (RC), Real Estate Economists and Community Strategists, we are pleased to present the following forecast for the City of Rowlett. What follows are estimates of: total population, total employment, total number of dwelling units, and total square feet of employment space by category (basic – which we are assuming means office and industrial space, service – which we are assuming means service retail, and retail – which is all retail other than service) along with a description of our methodology. You will see that we have provided two separate estimates for each indicator. As you know, growth and development within the City has been and will continue to be influenced by a number of factors including: regulations (zoning), policies, and select market forces. Whereas we cannot know how these factors might change over time, we are providing a range of estimates based on assumptions associated with two distinctly different growth scenarios. The assumptions associated with each scenario accompany the figures. Please feel free to use whichever ones you believe most closely reflect current conditions within the City.

Methodology

As you know, we have been engaged by the City of Rowlett consistently since 2008. To-date we have provided: independent financial analyses for two separate developments requesting City participation; market, financial and fiscal analyses of alternative land use concepts prepared in association with the update to your comprehensive plan; detailed market and financial analyses of potential development programs within four of the City's 13 priority investment areas; a review of proposed regulations (form-based code) from a market perspective; and, a fiscal analysis of the City's current zoning. We are currently working on the design of a deficit reduction model (fiscal impact) to be used in association with new development applications; and, we are about to begin more detailed market and financial analyses in a fifth priority investment area. Collectively this work has provided us with a thorough understanding of the City's existing: inventory of developed and undeveloped parcels; completed and planned infrastructure; regulations; policies; plans and vision. Our market work has provided us with an understanding of Rowlett's investment potential and ability to capture market share across a range of different land uses and product types. It is our understanding of both physical and market conditions which informed the estimates presented below.

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Conclusion

If you have any questions regarding this submittal, please contact either Anne Ricker or Bill Cunningham at 303.458.5800. Both of these individuals are authorized to speak on behalf of RickerlCunningham.

Sincerely,

RickerlCunningham

Anne B. Ricker
Principal
anne@rickercunningham.com

Bill J. Cunningham
Principal
bill@rickercunningham.com

Scenario No. 1: Bedroom Community

	Total @ Build-out	Total Population / Employment
Land Use:		
Residential (Units)	28,600	85,800
Basic Employment Space	2,539,800	6,350
Retail - Service	1,777,380	4,445
Retail – Non-Service	7,109,520	17,775

* Some figures are rounded.

Source: City of Rowlett; North Central Texas Council of Governments; and, Ricker|Cunningham.

Assumptions:

- There will be more emphasis on residential rather than non-residential development.
- Of the residential units that will complete the City's inventory, the vast majority will be single family detached with a larger household size.
- New development will be more closely in-line with the zoning that existed prior to passage of the form-based code in the four (of 13) priority investment areas.
- Properties with a Planned Unit Developments (PUDs) designation will develop with a mix of residential and non-residential uses - approximately 80% residential and 20% non-residential.

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- There will be no increase in density within existing established single family neighborhoods.
- There will be no extraordinary efforts made by the City to inform and direct development.
- There will be no proactive strategy for completing or improving infrastructure in either developed or undeveloped areas. Improvements will be piece-meal as new developments come forward.
- Retail (Service and Non-Service) Space per Employee – 400 square feet
- Office Space per Employee – 200 square feet
- Industrial Space per Employee – 500 square feet (Manufacturing), 350 square feet (Non-Manufacturing)

Scenario No. 2: Live-Work Community

	Total @ Build-out	Total Population / Employment
Land Use:		
Residential (Units)	27,900	78,120
Basic Employment Space	4,180,400	10,450
Retail - Service	1,777,380	4,445
Retail – Non-Service	7,109,520	17,775

* Some figures are rounded.

Source: City of Rowlett; North Central Texas Council of Governments; and, Ricker|Cunningham.

Assumptions:

- There will be a balanced emphasis on both residential and basic employment development (office and industrial space).
- Of the residential units that will complete the City's inventory, there will be a greater diversity of product in both form (attached and detached) and price point.
- While the total number of dwelling units will be less than under the "bedroom community" scenario, the total population will be significantly less due to the higher number of units with fewer occupants.
- Densities within new developments will be moderate (in the middle of the range allowed for under the form-based code) in the priority investment areas.
- Properties with a Planned Unit Developments (PUDs) designation will develop with a mix of residential and non-residential uses - approximately 2/3 residential and 1/3 non-residential.
- Mixed-use developments will have as much residential square feet over first floor commercial as they will office square feet over first floor commercial. Note: These assumptions are at build-out and therefore ignore the allowance within the form-based code for first floor residential as an interim use.

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- There will be no increase in density within existing established single family neighborhoods.
- There will be efforts made by the City to inform and direct development into select priority investment areas.
- There will be strategic efforts made to share (with the private sector) in the cost of improving infrastructure earlier rather than later.
- Retail (Service and Non-Service) Space per Employee – 400 square feet
- Office Space per Employee – 200 square feet
- Industrial Space per Employee – 500 square feet (Manufacturing), 350 square feet (Non-Manufacturing)

EXHIBIT A

Rowlett - 10 Year Growth

Legend

- Existing Streets
- Service Areas
- Single Family
- Mixed Use
- Multi-Family
- Commercial
- Industrial

N

0 0.5 1 2 Miles

EXHIBIT A

Rowlett - Build Out

Legend

- Service Areas
- Existing Streets
- Single Family
- Mixed Use
- Multi-Family
- Commercial
- Industrial

N

0 0.5 1 2 Miles

EXHIBIT A

Percent of Expected Employment and Residential Growth Allocated to Service Areas by Category

		Service Area 1	Service Area 2	Service Area 3	Service Area 4
10 Year Growth	Retail	44%	7%	15%	34%
	Basic	65%	0%	0%	35%
	Service	50%	10%	15%	25%
	Households/Population	40%	40%	8%	12%
		Service Area 1	Service Area 2	Service Area 3	Service Area 4

KHA MODIFIED % to add up correctly to 100%